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UTAH STATE HISTORICAL SOCIETY

As educators, public officials, and parents struggle to define and develop the best educational curriculum for our children, the word “relevance” is often employed to determine what time, resources, and effort should be given to any subject. Our students learn about a variety of subjects in the fields of mathematics, the sciences, languages, social studies, arts, and humanities. Certainly the pleasure and joy earned in studying any subject is reward enough—history being no exception. But if relevancy is a relevant concern in developing our public curriculum, is there relevancy in the study of history? Historian Robert Archibald answers the question with a resounding “Yes” as he argues, “So there is a point to history, for history is a process of facilitating conversations in which we consider what we have done well, what we have done poorly, and how we can do better, conversations that are a prelude to action.”

Our first article for 2007 considers what Utah state officials have done well to attain a triple A credit rating—one that only four other states in the nation can claim. The article serves as a guide for current and future state leaders on issues of funding and public debt. But it also has relevance for individuals who struggle with personal debt and place Utah first among all fifty states in the number of its citizens who declare personal bankruptcy.

As hostilities developed between Utes and Mormon settlers and Navajos and federal officials during the 1860s culminating in the Black Hawk War and the Long Walk by an estimated three-quarters of the Navajo people from their homeland in the Four Corners region to Bosque Redondo near Fort



Sumner in eastern New Mexico, another group of Native Americans, the Southern Paiutes, were caught between these two tragic events. Their largely forgotten story is recounted in our second article in this issue.

Completed in October 1861, the transcontinental telegraph connected the Atlantic and Pacific coasts rendering the eighteen-month-old Pony Express obsolete and increasing demands for completion of a transcontinental railroad. Construction of the transcontinental telegraph was a monumental undertaking that demanded leadership, resourcefulness and effort to obtain the thousands of telegraph poles needed to construct the line, and willing laborers to set the poles and string the wire. Our third article describes the role that Mormon convert-emigrants from England played in the construction of the transcontinental telegraph.

Defense and military spending have remained a staple of Utah's economy since the end of World War II. The story of the establishment of the Thiokol facility west of Brigham City in Box Elder County is told in the fourth article. The solid fuel rocket engines developed at Thiokol were critical to the development of America's missile system during the Cold War and the nation's pioneering space shuttle program.

Our last article is a tribute to Everett L. Cooley who served as director of the Utah State Historical Society from 1963 to 1969. As an Honorary Life Member and Fellow of the Utah State Historical Society, he continued to support and promote the research and writing of Utah history until his passing on July 2, 2006.

LEFT: Construction of the Utah State Capitol begins, April 4, 1913. ABOVE: The completed Utah State Capitol building, May 22, 1916.

ON THE COVER: Construction workers on scaffolding inside the Utah State Capitol Building, October 21, 1914. UTAH STATE HISTORICAL SOCIETY

Utah Public Debt History

By KIMBALL L. YOUNG



Utah ranks first among all states in the number of its citizens who declare personal bankruptcy.¹ As a percentage of Utah's population, more Utahns than anywhere else in the United States, because of deserved or undeserved financial stress, failed to pay their personal debts. In view of this noteworthy negative distinction, how have Utahns collectively, as a state, dealt with public indebtedness? Has Utah state government lived beyond its means or failed to repay its debts?

Ironically, while Utahns as individual debtors have their dubious bankruptcy status, the state as a borrower has attained and maintained the highest credit rating possible since 1965. In fact, Utah is one of only five states, and the only one west of the Missouri River, that has earned the triple A highest rating from Moody's Investor Service, Standard and Poor's and Fitch Rating Service.² This achievement means the state has not only paid back debt on a timely basis but also, has borrowed judiciously and sparingly over time. **Governor Heber M. Wells, 1896.**

Kimball L. Young is a long-time Utah public financier who from 1980 to 2001 originated and structured state and local government project financings. In 2001, he became portfolio co-manager of Tax-Free Fund For Utah, a municipal bond mutual fund serving Utah investors. Young is an adjunct faculty member of the Brigham Young University Romney Institute of Public Management where he helps teach a graduate course in public debt management.

¹ Utah Foundation, Research Report, Number 670, *Going For Broke: Utah's Alarming Bankruptcy Problem* December 2004 (Salt Lake City: Utah Foundation, 2004).

² Moody's Investor Service, Standard and Poor's, and Fitch Rating Service are the three major state and local government credit rating agencies. All three base their ratings upon public information, provide independent review and critique, research and data.

This rarified public credit status was not attained immediately but over the first sixty-nine years of Utah statehood and has been maintained since. The purpose of this monograph is to provide a history of state indebtedness and to highlight state government actions during the past one hundred ten years that established the state's public borrowing record, and to suggest what should be remembered for future public borrowing decisions.

States, including Utah, tax their residents for state government operations and services such as courts and prisons, road construction and public education. Those taxes, which were originally property based, became property and income taxes, and now can be property, income and sales taxes. Utah state government has depended on income and sales taxes since 1973, leaving the property tax levy to the myriad of local governments.³

The challenge annually for Utah's governor and the state legislature is to budget for ever expanding state programs within limited state tax revenues without knowing how this year's economy will affect Utah taxpayers.

Periodically, if not annually, capital needs arise. More road improvements than can be paid for from current tax revenues are needed. New buildings to house higher education, social services, courts, correctional facilities, liquor stores, and other government functions are needed to serve the growing public. State government, reluctant to raise taxes precipitously to pay for new capital projects immediately and knowing the projects will serve future generations of Utahns, chooses to borrow.

All states, when their constitutions were framed, placed limitations on how much and for what money could be borrowed. At the time Utah's statehood was granted, the framers of Utah's constitution limited indebtedness and then by statute required a majority of the legislature to authorize all state borrowing. The existing public record of Utah's indebtedness is largely entries in state auditor reports and governors' calls for capital borrowing in their biannual and annual messages to the legislature. This monograph is a mining of the historical documents and provides the most complete accounting of Utah's indebtedness from the territorial period to 1965. The Utah Foundation is the only reporter that has provided an early debt history of Utah, albeit a very general one.⁴ Only three of the many occasions of indebtedness are recounted by the Foundation. The first was a 1911 bond issue to help finance the construction of the State Capitol. The second general obligation borrowing occurred in 1933 during the Great Depression.⁵ Thirty-two years later, in 1965, Utah used the general

³ Utah Foundation, *Financing Government in Utah: A Historical Perspective* (Salt Lake City: Utah Foundation, 2000), 16.

⁴ Utah Foundation, *Utah State General Obligation Debt*, Research Reports, Number 581, April 1995 (Salt Lake City: Utah Foundation, 1995), and *State Government Debt in Utah: Rapid Growth in Recent Years*, Number 662, December 2003 (Salt Lake City: Utah Foundation, 2003). The Utah Foundation is a private, nonprofit public service agency established to study and encourage the study of state and local government in Utah, and the relation of taxes and public expenditures to the Utah economy.

⁵ Full faith and credit borrowing--the state covenants to raise taxes to whatever extent necessary to repay. The highest credit rated state borrowing technique carries the lowest interest cost.



obligation bonds for a third time. Thereafter, for the next borrowing in 1975 and later years, the record of indebtedness is fully recorded in state audits and reports. In addition, the Utah Foundation's report *Utah State General Obligation Debt* provides a thorough review from 1990 to 2003.

***Construction of the Utah
Territorial Reform School in
Ogden.***

Many economic and public improvements from the 1847 arrival of the Mormon pioneers until statehood in 1896 were sponsored by The Church of Jesus Christ of Latter-day Saints (Mormon church) which dictated territorial affairs despite United States government appointees sent to officiate.⁶ Two years after the arrival of the first pioneers, the first of seven conventions was called in Salt Lake City to frame a constitution for the proposed state. The 1849 request was denied, but in the fall of 1850, Congress approved the creation of the Territory of Utah with Brigham Young as its governor. In 1856, a second effort was made for statehood. Not only was it disregarded but President James Buchanan appointed Alfred Cumming as governor replacing Brigham Young and gave him a military escort to secure his arrival in the territory. Other attempts at achieving statehood followed in 1862, 1872, and 1882. Each time Congress rejected Utah's request. The sixth effort was made as a response to the Edmunds-Tucker Law of 1887,

⁶ Among the federal appointees to Utah during its territorial period were fourteen governors. "All were outsiders except Brigham Young. Often referred to as carpetbaggers, most had practiced law and pursued political office before arriving in Utah. Some appointees worked with the local population in developing the territory. Others became embroiled in the Mormon-gentile conflict that dominated Utah politics in the late 19th Century." For a list of Utah's territorial governors, see "Utah's Governors," *Beehive History* 18 (1992): 3.

which confiscated Mormon church owned properties for Mormon refusal to abide by federal laws prohibiting polygamy.

In March 1888, the territorial legislature for the first time incurred public indebtedness. The \$150,000 bond partially funded the establishment of a reform school in Weber County, the agricultural college in Cache County, the University of Deseret, an institute for deaf mutes, and for improvements on Capitol Hill, and for improvement of the Tenth Ward Square to be used for the permanent fair grounds.⁷ A second territorial borrowing of \$300,000 occurred in 1890 to further fund the above projects and to establish an “Asylum for the Insane at Provo.”⁸ The territorial legislature borrowed again in 1892 for \$250,000.⁹ On all three occasions the territory borrowed for twenty years at 5 percent interest.

Confronted by the latest congressional rebuff and the increasingly untenable economic situation of the church, Mormon leaders acquiesced on the issues of polygamy and ecclesiastical control. Once done, Mormon and non-Mormon interests all came out for statehood. The people of Utah elected delegates to the seventh and last constitutional convention held in 1895. State debt limitations were part of the earlier 1872 and 1888 proposed state constitutions and would be an important issue in 1895. The final draft of the 1895 constitution stated: “The state may contract debts.... not exceeding the sum of \$200,000 over and above the amount of the territorial indebtedness assumed by the state.”¹⁰

The only other public debt issue addressed in the drafting of the state constitution focused on the state lending its credit to private enterprise. This matter was “the nearest approach to a strictly partisan division.”¹¹ The Democrats tried to insert a prohibition against state aid to private business. Following six failed attempts to adopt such a provision, Charles S. Varian, a Republican leader, offered an amendment which declared that the legislature should not authorize the state or any other political subdivision of the state to “lend its credit or subscribe stock or bonds in aid of any railroad, telegraph, or other private, individual or corporate enterprise.”¹² A long debate followed, with other Republicans charging that Varian was deserting his party. The argument became “violently partisan” when a prominent Republican, J. R. Bowdle, accused “all the Democrats of being afflicted with liver complaint.” C. C. Goodwin, another Republican framer, speaking about the Democrats, stated: “they all should go to Provo, where the asylum for the insane was located.” Eventually, five Republicans joined with the

⁷ Orson F. Whitney, *History of Utah*, 4 vols. (Salt Lake City: George Q. Cannon & Sons Co., publishers, 1898), 3: 615-16.

⁸ *Laws of the Territory of Utah, Passed at the 29th Session of the Legislative Assembly*, 1890, 68-71.

⁹ “Message of Governor Heber M. Wells to the Second Session of the State Legislature of Utah, January 12, 1897,” p. 7. Pam. 3061, Utah State Historical Society Library.

¹⁰ Utah State Constitution, Article XIV, Sec. 1, “Public Debt”.

¹¹ Stanley S. Ivins, “A Constitution for Utah,” *Utah Historical Quarterly*, 25 (1957), 106.

¹² Utah State Constitution, 1895, Article VI, Sec., “Lending public credit forbidden.”

forty-one Democrats, and the party-deserting Republican's amendment was narrowly adopted 46–44.¹³

Individual state support of private enterprises had been the nation's rule, not the exception for more than the past half-century. When Michigan was admitted into the Union in 1837, a late nineteenth century economist wrote: "it might be imagined, from the proceedings of her early legislatures, that the purpose for which she sought the privileges of a state was to build canals, railroads, and turnpikes, and to improve rivers and harbors."¹⁴ The private sector instigated and funded most projects. The emotional enthusiasm during the middle of the nineteenth century and beyond for these projects across the country, including railroads, mirrored the earlier banking craze, wrote economist A. M. Hillhouse. "It was anticipated that every railroad produces large profits on the investment, converts villages into cities and almost any city into a metropolis and doubles and triples the value of land in every county through which it passed."¹⁵

Much of Utah's experience of economic development during the territorial period was largely LDS church sponsored. The church established commercial institutions such as Zion's Cooperative Mercantile Institution (ZCMI), the Provo Woolen Mills, the Washington Cotton Factory in Washington County, Zion's Savings Bank & Trust Company, and later, the Salt Lake City streetcar and gas companies, the Saltair Pavilion on the Great Salt Lake, the Saltair Railway Company (eventually known as the Salt Lake and Los Angeles Railway), and the Utah Sugar Company, among others. Mormon framers of Utah's constitution saw value based on earlier practices, in state government "lending its credit" to private enterprise.

During the depression of 1873, defaults in bonds issued by a number of states for railroad development were frequent. And, most states experienced their first debt troubles when defaults occurred on railroad bonds. More than a hundred railroad bond issues were declared void from 1860 to 1880. Among the causes of state indebtedness in 1880, railroad debt was first at almost forty-eight million dollars followed distantly by public buildings at less than \$6.3 million. The panic and depression of 1893 brought more defaults and by 1895, all but seven state governments constitutionally prohibited the lending of their credit to private enterprise, notably railroads.¹⁶

On January 4, 1896, President Grover Cleveland signed the Utah statehood proclamation, granting statehood to Utah. The new Utah constitution stipulated that the state assume all territorial debts. These totaled seven hundred thousand dollars. During the first session of the state legislature, newly elected governor, thirty-six-year old Heber Manning Wells, a

¹³ Ivins, "A Constitution for Utah," 106–07.

¹⁴ Henry C. Adams, *Public Debts, An Essay In The Science of Finance*, (New York: D. Appleton and Co., 1895), 325.

¹⁵ A.M. Hillhouse, *Municipal Bonds: A Century of Experience*, (New York: Prentice-Hall, Inc., 1936), 148.

¹⁶ Adams, *Public Debts*, 305.



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Republican, a former banker and tax collector for Salt Lake City, urged approval from his Republican dominated legislature of the assumption and refinancing of territory debt and the issuance of two hundred thousand dollars in new bonds, the maximum allowed, for immediate operational needs of the new state. The new debt, with a term of twenty years at 4 percent interest, was needed to pay salaries of state officers and the expenses of state institutions, the courts and the legislature, which in part had been funded during territorial times by the federal government. Utah ended its first calendar year of operations with full faith and credit indebtedness of \$900,000 compared to the annual state operational budget of less than \$1,200,000.¹⁷ The 1896 Utah constitutional debt limitation was very representative of the debt limits of other states. Subsequently, however, over the next fourteen years Utah's growing capital improvement needs became obvious enough to convince Utah voters in 1910 to approve a change in the state constitution, "fixing the maximum indebtedness at an amount equal to 1.5 percent of the assessed valuation of property in the state."¹⁸ This change gave the state much more debt capacity.

***The Last Stone for State Capitol,
February 11, 1915.***

¹⁷ Today, because of inflation, that \$200,000 of maximum 1896 borrowing capacity is equivalent to funding more than \$4 million dollars in state capital improvement. The total \$900,000 indebtedness included \$700,000 for the territorial period and the \$200,000 in new state indebtedness.

¹⁸ Jewell J. Rasmussen, *History of Utah's First Century of Taxation and Public Debt 1896-1995*, (Salt Lake City: University of Utah, 1996), 15.

Political Party Majorities in the Utah State Legislature 1896-2006

Republican Majority	Democratic Majority	Split in House and Senate
1896	1897—1900	1901—1902
1903—1916	1917—1920	1947—1948
1921—1932	1933—1946	1951—1952
1953—1958	1949—1950	1959—1960
1963—1964	1961—1962	1971—1972
1967—1970	1965—1966	1977—1978
1973—1974	1975—1976	
1979—2006		

It did not take Governor Wells long to ascertain a major state cash-flow challenge. In his second report to the new Democrat controlled legislature, on January 12, 1897, the governor declared: “we spend our money before we get it.” The state was borrowing during the year at not less than 8 percent interest from local banks awaiting receipt of property taxes at year-end. This situation, the governor called “a surprising loss to the state.” To solve the cash-flow/interest expense problem and speed receipt of property taxes, the governor called for “collection of taxes in semi-annual installments.” The legislature, however, was not persuaded to change property tax collection to twice a year. Two years later, Governor Wells recommended another solution to the state’s cash flow problem. “Whenever there are no available funds in the treasury, the [state] be authorized to negotiate short loans at the lowest possible rate of interest, to always keep the treasury on a cash basis.”¹⁹ To this, the legislature agreed.

For the first years of statehood, the legislature and state government operated without their own capitol building. The first recorded call for a permanent home for state government came from one term Republican Governor John Christopher Cutler. He proposed in 1907 that the state capitol be built on land located on Salt Lake City’s north bench on which improvements had been made since the 1890s. He also warned his overwhelmingly Republican legislature of a problematic state budget deficit in 1905 and again in 1907, the state deficit representing 4 percent of that \$2.4 million state budget.

Two years later, in 1909, a surplus of state revenue of almost \$230,000 on a \$2.9 million budget had returned to state government.²⁰ New Republican Governor William Spry, a native of England, a Mormon convert and missionary, a rancher and politician, also considered construction of a state capitol a high priority. He proposed a statewide one-mill tax levy and called for a vote on his proposal in June 1909. During the legislative session the governor received approval for the maximum of \$200,000 in general

¹⁹ Heber M. Wells, *Message of the Governor to the Third Session of the State Legislature*, 1899. Pam. 3068, Utah State Historical Society Library.

²⁰ William Spry, *Message of the Governor to the Eighth Session of the State Legislature*, 1909, in *House Journal of the Eighth Session of the State of Utah* (Salt Lake City: Century Printing, 1909), 5.



obligation bonds to help erect the capitol. Despite predictions of passage and perceived widespread support, the statewide levy failed. The project then sat for two years.

Dedication of the Utah State Capitol, 1916.

But on March 1, 1911, the state unexpectedly received \$798,546 in inheritance taxes from the estate of Union Pacific multimillionaire Edward H. Harriman.²¹ With the governor's appointment of a Capitol Commission the project moved from the state budget back burner. In addition to the estate tax windfall, the Republican dominated legislature authorized one million dollars in general obligation bonds, to be issued in four terms—twenty, thirty, forty, and fifty years—which took advantage of the 1910 change in the state constitutional debt limit.²² In addition, the 1911 legislature authorized \$250,000 in general obligation bonds, for the first time for roads in different parts of the state, and \$300,000 for “erection and equipment of a main [Park] building for the University of Utah.”²³ The road and building bond terms were for twenty years at 4 percent interest. The estate tax windfall not only enabled the state to pay for the initial expenses of capitol construction but also to “conduct the state's business on a cash basis and obviate the expense of temporary overdrafts—a necessity which arose during a portion of every calendar year since statehood, prior to 1911.”²⁴ The last debt issue of \$650,000 to complete the state capitol was

²¹ Edward H. Harriman's Utah investment holdings were extensive.

²² *Laws of Utah*, 1911, Chapter 8, Bonds for State Capitol. The 1895 constitutional debt limit was set at \$200,000. In the general election of 1910 voters approved the fixing of the maximum indebtedness at an amount equal to 1.5 percent of the assessed value of the state.

²³ *Laws of Utah*, 1911 Chapters 14, 24, and 45, Bonds for University Building, Capitol Building, and Roads, respectively.

²⁴ William Spry, *Governor's Message to the 10th Legislature, 1913 in House Journal, Tenth Session of the Legislature of the State of Utah* (Salt Lake City: Century Printing, 1913), 7.

requested by Governor Spry and approved by the Republican led legislature in 1915.²⁵ This twenty-year general obligation financing at 5 percent interest brought the total cost of capitol construction, furnishings, and grounds improvements to slightly less than \$2.7 million.

By the end of Governor Spry's two terms, the state was again facing nagging tax revenue shortfalls. Newly elected Democrat Simon Bamberger, Utah's only Jewish governor who was born in Germany and immigrated to Utah after the Civil War, where he became successful in mining and railroad ventures, inherited a sizable state budget deficit. On January 9, 1917, in his message to the state legislature, he chided the legislature concerning the state's financial condition. "While the people of Utah are prosperous and contented," he said, "the finances of the state are far from satisfactory. You are confronted with the difficult problem of providing revenue, not only to meet the current expenses and growing needs of the state for the next biennium, but also to meet a deficit of nearly half a million dollars."²⁶

Governor Bamberger provided several possible solutions to this financial problem: first, by bonding to cover the deficit; second, by reducing spending requirements to an absolute minimum; and third, by making provision for more revenue. He added: "we cannot afford to delay the construction of highways, so imperatively needed in fertile sections of the state not now accessible to railways." He sought and received two bond issues for road improvements, the first for two million dollars in 1917 and the second for four million dollars in 1919 from his almost entirely Democrat legislature. Both were twenty-year bonds at 4.5 percent interest. Governor Bamberger and his supportive legislature also instituted an "occupation and privilege tax on the business of mining." The tax resulted in \$30,000 of new revenue in 1918 and \$967,732 in 1919.

Despite new and growing tax revenues the budget deficit reappeared. Charles Rendell Mabey, a Republican and one term governor, who served in the Spanish-American War and the state legislature, asked for and received authorization from his Republican-directed legislature to begin his term with the issuance of five hundred thousand dollars, twenty-year, 5.5 percent, general obligation state deficit bonds to cover the tax revenue shortfall. He also took up the cause of more paved roadways. "Utah stands in the very forefront of road building," he told the legislature and, "only one other state has made the per capita outlay equal to ours during the four years preceding 1921." During that time, Utah had expended six million dollars in bond proceeds for that purpose, "which sum is insufficient by more than a million dollars to complete outstanding contracts," he said.²⁷ He requested and received one million dollars in government obliga-

²⁵ Legislature, *Ibid*—1915 Senate 12 R 5 D; House 23 R 8 D

²⁶ Simon Bamberger, *Governor's Message to the 12th Legislature*, 1917. Pam. 3066, Utah State Historical Society Library.

²⁷ Charles Rendell Mabey, *Governor's Message to the 14th Legislature*, 1921, in *House Journal of the Fourteenth Session of the State of Utah* (Salt Lake City: 1921), 17.

tion (GO) bonds for road projects, with a term of twenty years at 5.5 percent interest.

Conquering the state budget deficit proved daunting. George Henry Dern, two-term Democrat, non-Mormon governor from 1925 to 1933, and later Secretary of War in the cabinet of President Franklin D. Roosevelt from 1933 to 1945, was also committed to canceling the continuous budget shortfall. "There has been a deficit in the state general fund for a number of years," he reminded his Republican dominated legislature. "I invite your attention," he continued, "to Article XIII, Section 9 of the Constitution, which prohibits the legislature from making appropriations or authorizing expenditures in excess of revenues. Clearly an appropriation bill that exceeds the state's revenues is unconstitutional."²⁸ The state's main source of revenue continued to be the property tax. Governor Dern preached state government frugality.

In 1929, Governor Dern requested of the more balanced but still Republican controlled legislature, the creation of a Building Commission to prioritize the construction of needed state projects. The legislature consented and created the commission, which deliberated, prioritized, and recommended bonds totaling \$1,150,000 for a list of higher education and other state projects. The general obligation bonds were issued for twenty years with an interest rate of 4.5 percent.

On the state and national horizon, the economic bludgeon of the Great Depression was about to fall. Even though the Building Commission was the governor's tool for long-range planning for financing public buildings, it did not respond fast enough or with enough funded public projects to ease Depression-caused joblessness. "During the winter of 1930-31, Governor Dern advised the State Road Commission to hurry the construction of highways to provide work for the unemployed, and he encouraged contractors to minimize the use of labor-saving equipment in order to hire as many workers as possible."²⁹

Democratic Governor Henry Hooper Blood, a local Mormon church leader and former chairman of the State Highway Commission, assumed office in 1933 at a low point in the Great Depression and served until 1941. The Utah unemployment rate soon rose to 36 percent, fourth highest in the entire country. In his first message to the Democratic led legislature he announced an alarming state budget deficit of \$1,925,216, which would "absorb a full year's revenue within about \$400,000."³⁰ His proposal to issue \$2 million in state deficit bonds to be retired by 1942 after eight installments of \$250,000 per year plus 4.5 percent interest was approved by the

²⁸ George Henry Dern, *Governor's Message to the 16th Legislature*, 1925. Pam. 3067, Utah State Historical Society Library.

²⁹ Thomas G. Alexander, *Utah the Right Place: The Official Centennial History* (Salt Lake City: Gibbs Smith Publisher, 1995), 313-14.

³⁰ Henry Hooper Blood, *Message of the Governor to the 20th Legislature*, 1933. Pam. 3052, Utah State Historical Society Library.

legislature. Two years later, in 1935, economic conditions worsened further. The state was not able to meet its scheduled debt payment. Fortunately, interest rates had declined to allow for a refinancing of the deficit bonds at 1.5 percent interest and on more favorable terms, that is, extending the debt retirement period from 1942 to 1955.

By 1937, again, an almost entirely Democratic state legislature was making its semiannual debt service when Governor Blood reported: "Using \$522,831,674 as the current assessed valuation of the state, the constitutional limitation of 1.5 percent fixes \$7,842,475 as the maximum net debt, which leaves a borrowing margin of \$3,683,885. If I properly interpret the wishes of the majority of the people, they do not desire at this time that state debt obligations be increased."³¹ With no additional debt, Governor Blood opined two years later, "There is one clearing in the state's financial skies. All obligations are promptly met. The state's credit is excellent. The bonded debt of the state is being rapidly liquidated. Outstanding bonds total \$7,955,000. Funds set aside to make bond payments when due reduce the unfunded payments to \$2,642,500, the lowest during the past 20 years."³²

Exiting the Great Depression and entering the World War II era of the 1940s brought improved economic times to Utah. Federal expenditures pushed the Utah and national economy from long-time lethargy to times of jobs a-plenty. From the standpoint of financing new state buildings and other public projects, there was little to no opportunity to focus on Utah's capital needs. Now was the time to be part of the national wartime commitment whose goals were victory in Europe and the Pacific.

Governor Herbert Brown Maw, Ogden Mormon Democrat who earned a law degree but taught speech and political science at the University of Utah and served in the state senate, reported in his first message to the still Democrat directed legislature, "The financial condition of our state government is exceptionally good. I believe the state should get out of debt as soon as possible and thereafter should stay out of debt. The wisdom of such a policy can be appreciated when we realize that since 1922 the state has paid the sum of \$8,170,650 interest on outstanding bonds."³³

Noting the state's last payments on general obligation bonds were scheduled to be made in 1955, Governor Maw announced to his prevailing Democrat legislature in 1943, "I have transferred the sum of \$1,695,000 to the Board of Loan Commissioners to retire those bonds. Therefore, the state of Utah is now out of debt."³⁴

³¹ Henry Hooper Blood, *Message of the Governor to the 22nd Legislature*, 1937. Pam. 3055, Utah State Historical Society Library.

³² Henry Hooper Blood, *Message of the Governor to the 23rd Legislature*, 1939. Pam. 3056, Utah State Historical Society Library.

³³ Herbert B. Maw, *Message of the Governor to the 24th Legislature*, 1941. Pam. 3692, Utah State Historical Society Library.

³⁴ Herbert B. Maw, *Message of the Governor to the 25th Legislature*, 1943. Pam. 3057, Utah State Historical Society Library.



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Governor Maw, Utah's congressional delegation, and other state leaders were successful in attracting military installations and related industries to the state during the war years.

Utah's inland location and access to transportation to the West Coast ports made it ideal for many wartime facilities. The war created thousands of jobs and pumped money into Utah's economy and into state government coffers. In 1947, in his last message to the legislature, Governor Maw stated: "Many citizens who are anxious to see our state progress, have and will recommend the issuing of bonds and the incurring of debt for building and other purposes. I respectfully urge this not be done."³⁵

Republican Governor Joseph Bracken Lee, who previously had served six, two-year terms as mayor of Price and had worked in real estate and insurance, described himself as a strict economic conservative. In 1949, he received from the Democrat led legislature state finances void of indebtedness, five million dollars in surplus and an additional four million dollars in unexpended building funds. With this surplus of funds, Governor Lee called for deep cuts in many state agency budgets. This insistence on strict economy won widespread approval at the outset of his first term. His first message to the legislature in 1949 made specific recommendations regarding the earmarking of funds, the reorganization of the welfare and highway department, liquor management, the state prison, and public education. The Lee administration plan for funding capital projects was to appropriate surpluses to a newly created Reserve Building Fund, "which fund comprises the spillover of sales tax revenue in excess of appropriations."³⁶ Some thirteen-

***Road construction workers in
1922 pour concrete on the road
between Helper and Price.***

³⁵ Herbert B. Maw, *Message of the Governor to the 27th Legislature*, 1947. Pam. 3059, Utah State Historical Society Library.

³⁶ J. Bracken Lee, *Message of the Governor to the 30th Legislature*, 1953, Pam. 2026, Utah State Historical Society Library.

million dollars were appropriated from the now Republican controlled legislature between 1953 and 1955 for a host of prioritized projects starting with welfare institutions—state mental hospital, state industrial school, state training school, and state prison—followed by higher education buildings.³⁷ The national and state economy regressed drastically by 1955. “We face a troublesome financial situation,” Governor Lee reported to the legislature. “We are reaching the point where our revenues will no longer stretch to cover our expenses. In this circumstance, the alternatives are obvious: we either save money by cutting out some of our marginal services, or we increase taxes. We may, of course, do a little of both. This is our choice, like it or not, since in accordance with our constitution we cannot spend more than we receive.”³⁸ Bonding was not an alternative for Governor Lee.

Another fiscally conservative governor, Republican George Dewey Clyde, was director of the Utah Water and Power Board when elected and had served as dean of the Utah State University College of Engineering and Technology. The Mormon native of Springville favored strong economic development utilizing the state’s natural resources, especially water. He was not an advocate of bonding but urged that capital projects be built on a “pay-as-we-go” basis. He was especially unwilling to bond for the needs of higher education. Enrollments exploded in the state’s colleges during the postwar era, due in great part to the federal GI Bill of 1944, which offered higher education benefits to war veterans.

Escalating student numbers, heaped on the biannual legislative funding process, hobbled to a crawl the construction of higher education buildings. The pay-as-we-go plan was that after the governor and the legislature had established the budget and adequate tax revenues were collected, the State Finance Commission and the State Building Board could then release funds for constructing state buildings. This process took a year or more after authorization, and only when the money was safely in hand was the Building Board able to commission architects. The result was long delays. On average, each building took about six years to complete from the point of appropriation until it was available for use. The University of Utah projections, which turned out to be grossly short of reality, had student enrollment leaping from less than 10,000 in 1958 to 20,000 in 1975.³⁹

The ten year building program for state institutions prepared by the State Building Board in January 1961 for Republican governor George Dewey Clyde and the Democratic led thirty-fourth legislature pointed out the governor’s pay-as-we-go system required “a minimum of state tax increases. On the other hand, following the pay-as-we-go system meant an absence

³⁷ J. Bracken Lee, *Message of the Governor to the 31st Legislature*, 1955, Pam. 3027, Utah State Historical Society Library.

³⁸ *Ibid.*

³⁹ Paul W. Hodson, *Crisis On Campus: The Exciting Years of Campus Development at the University of Utah*, (Salt Lake City: Keeban Corporation, 1987), 23.

⁴⁰ *Ibid.*, 30.

of long range planning. It means today, a much higher cost of construction.” Despite this conclusion, Governor Clyde’s letter, which prefaced the report, defended his fiscal policy and concluded: “I suggest that the above recommendation be used as guideposts for the continuation of a maximum effort on a pay-as-we-go basis.”⁴⁰

Shortly thereafter, B.Z. Kastler, a prominent legislator in the governor’s political party, spoke out about the governor having no qualms at all about borrowing over one million dollars for the Wasatch State Park golf course in Wasatch County, payable at 3 percent interest over ten years; or a debt of many millions to the federal government for the Weber Basin and the Vernal water reclamation projects; or a debt of nearly a billion dollars for the Upper Colorado River project, to be paid off by mostly Wasatch Front Utah taxpayers over a period of fifty years.⁴¹ Governor Clyde, no doubt, did not want to be the state’s chief executive to lead the state into new major general obligation indebtedness after more than two decades of being debt free.

Clyde’s resistance to general obligation indebtedness was in conflict with the Republican dominated legislature. The 1963 legislature recognized the need and public pressure for state university capital improvements. After session-long deliberation and debate the legislature on the last day of the session passed a forty-two million dollar bonding measure, secured by a one-half percent increase in sales tax, to upgrade, for the most part, buildings at the University of Utah. Governor Clyde had committed to vetoing bonded indebtedness. When the bill reached his desk he did. Legislative and public reaction to the veto was loudly in support of the bonding bill. The governor stonewalled, stating: “First, it is unwise and unethical to obligate future legislatures with debt, and second it is unnecessary.”⁴² The governor called for phased funding and no bonding. Opponents cited the twenty-year history of the state’s pay-as-we-go, start-up and stop construction program and reminded the governor that the legislature, under his approach, could not bind the next legislature. Ultimately, Governor Clyde agreed to interim finance in the form of borrowing against anticipated revenues. University of Utah administrators quickly let architectural contracts for the chemistry, physics and biological science buildings, the



Governor Herbert Maw.

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⁴¹ Ibid., 30, 89.

⁴² Quoted in Hodson, *Crisis on Campus*, 88

⁴³ Ibid., 98

library, the unfinished portions of the business and engineering buildings, and utilities for campus development. The planning authorization money had been won but the means by which the buildings would be funded—bonding—had not.⁴³

In January 1965, newly elected Governor Calvin Lewellyn Rampton, Democrat native of Davis County, a University of Utah graduate, a practicing attorney and for the next twelve years Utah's first three-term governor, addressed the thirty-sixth legislature, now controlled by his party. He and the legislature called for a sixty-seven million dollar bond issue for higher education improvements. In Rampton's message to the legislature he stated:

I have no strong feeling either for or against the simple issue of borrowing to meet our needs. Had our predecessors kept abreast of our building needs from year to year in the past 16 years, I would not need to recommend a bonding program of magnitude today. For I can see no virtue in bonding. But I see even less virtue in leaving critical needs unmet if bonding would help us meet them. A state which needs to have homes for its universities, trade schools, hospitals and other institutions, is in the same position as a man who needs a home for his family. The need is immediate. The cash is not.⁴⁴

The legislature took up the bonding bill almost immediately.

Republican opposition arose mostly from its phased funding solution from two years earlier. Their solution was to commit to a sales tax increase to cover building costs. Governor Rampton did not think this approach with a ten-year construction timeline was fast enough for most needed buildings. Besides, the governor needed the increased sales tax in the general fund to meet the ongoing programs of the state. The bonding bill was debated and passed, almost completely as the governor had proposed. Federal matching funds and private donations were soon gathered to help fund critical university building construction.⁴⁵

According to the Utah Foundation, the bond was significant for three reasons. "It was the first bond issue in 32 years. Second, it was substantially larger than any bond yet in the history of the state. It set a [Utah] precedent for using bonding as a significant source of capital infrastructure funding."⁴⁶ With the 1965 issuance of sixty-seven million dollars in general obligation bonds for fifteen years at 2.91 percent interest, the state reached 58 percent of its constitutional debt limit. The state had the money available immediately. It was invested at rates as high as 7 percent until it was needed to pay for construction. As a result, the effective rate of interest the state paid on the bonds over their fifteen-year term was only about 1.42 percent.⁴⁷

A 1973 *Salt Lake Tribune* editorial estimated that due to rising inflation, "the program accomplished with the [\$67 million] could cost [now] as

⁴⁴ Ibid., 111-12.

⁴⁵ Calvin L. Rampton, *As I Recall*, (Salt Lake City: University of Utah Press, 1989), 142-43.

⁴⁶ Utah Foundation Research Report, *Utah State General Obligation Debt*, (Report No. 581, April 1995), 410.

⁴⁷ Rampton, *As I Recall*, 142.

⁴⁸ *Salt Lake Tribune*, August 29, 1973.

much as \$180 million. This fortunate combination, especially the superb timing of expenditures, allowed Utah college and university expansion to keep pace with enrollment increasing from 23,573 in 1963 to over 43,000 last year (1972).”⁴⁸

Another ten years would pass before the state legislature would approve another bond issue. Most of the 1975 seventy-million dollar bonds went for “expansion of the University of Utah Medical Center, other higher education projects and state facilities.”⁴⁹ The bonds were issued for thirteen years at an interest rate of 5.49 percent.

During the two-term administration from 1977 to 1984 of Democrat Scott Milne Matheson, an attorney employed from 1956–1976 in the legal departments of Union Pacific Railroad and Anaconda Copper Corporation, many projects were authorized and funded with bonds by Republican controlled legislatures. The bonds were issued in 1978 and 1980 for state-sponsored water storage projects totaling twenty-five million and eleven million dollars respectively. Governor Matheson viewed general obligation bonding as an economic development tool and advocated bond issuance of twenty-five million dollars in 1983 to accelerate completion of Utah’s portion of the interstate highway system. As a result of issuing these bonds, the Utah interstate highway system completion was advanced by at least two years, and because of the accelerated construction, motor vehicle deaths on Utah’s “Death Strip” between Nephi and Levan and at other locations, were reduced. Scores of road construction jobs were created as well.

Since 1982, state governors and predominately Republican controlled legislatures have authorized the use of general obligation bonds every year except the years of 2000, 2005 and 2006. Norman Howard Bangerter, a homebuilder and real estate developer for twenty-five years before being



**Governor Calvin Rampton,
inauguration, January 4, 1965.**

⁴⁹ Utah Foundation Research Report, *Utah State General Obligation DebtMunicipal Bonds*

⁵⁰ A.M. Hillhouse, *Municipal Bonds*, 25

elected to two-terms as governor in 1985, advocated issuing bonds annually for an amount approximately equal to the state general obligation debt retired each year. The terms of state borrowing were less than ten years, which resulted in interest costs staying low for the state. Details on bonds issued since the early 1980s are available in the annual award winning financial reports of the state and from State Treasurer Edward T. Alter who has served continuously since 1981.

During the almost three term administration from 1993 to 2003 of Republican Governor Michael Okerlund Leavitt, a Southern Utah University graduate and insurance executive, debt policies of the previous decade were followed. The state continued to use general obligation bonds to finance primarily buildings. But by the mid-1990s, general obligation bonds were again issued for highway construction and reconstruction projects. More than one billion dollars in general obligation bonds were ultimately needed for road projects prior to the staging of the Salt Lake City-hosted 2002 Winter Olympic Games.

To supplement and optimize general obligation borrowing, the state began using its State Building Ownership Authority established in the late 1970s. These lease-revenue bonds are retired from annual legislative appropriations and fee collections from state agencies occupying the financed buildings.

Republican Lieutenant Governor Olene Walker, who succeeded Governor Leavitt as governor following his resignation in 2003, promoted state tax reform and financially served the public by achieving savings from a \$315 million refinancing of state general obligation funds in 2004. Republican Governor Jon M. Huntsman Jr., family chemical company executive, former United States Ambassador to Singapore, and Under Secretary in the United States Commerce Department, neither requested nor received a general obligation bond authorization in 2005 or 2006. The Huntsman administration, however, is putting the State Building Ownership Authority to use.

Has the state ever defaulted on any of its indebtedness? The answer is no. The record is unblemished. Of note is that Utah ranked thirteenth in 1922 and twenty-ninth in 1932 among all states in per capita debt burden, which correlates with the cumulative borrowing for road building done by the state in the late teens and early 1920s, and the deficit bonds issued in 1921 and during the Great Depression.⁵⁰ Over the last twenty-five years, Utah typically ranks between thirty-fourth and thirty-seventh in per capita annual debt burden.⁵¹

So what does this 118-year record tell us? Foremost, from 1965 to the present, Utah is one of a handful of states, five at most, that have an

⁵¹ *Annual Bond Buyer* yearbooks.

uninterrupted triple A credit rating—the highest possible. That means taxpayers borrowing at the lowest possible interest cost. Utah government has become very sophisticated in its use of different tools for borrowing. Although the state allowed budget deficits in its early years, certainly, as evidenced by the triple A rating since 1965, it has had none since. The state, in its formative years, actually issued long-term (twenty-year) general obligation bonds to cure budget deficits or cover tax revenue shortfalls on three occasions. The state would lose its coveted triple A rating if it did so today. Utah does not finance assets beyond their useful life. During its first quarter century of existence, the state frequently issued twenty year general obligation bonds for roads, whose practical life was never that long. Utah taxpayers can pat themselves on the back and thank state elected and appointed officials for the comparatively efficient and cost effective way Utah has managed its bonding. Utah is a long-time example for the rest of the country of excellence and economy in state debt issuance and management.

Caught In Between: Jacob Hamblin and the Southern Paiutes During the Black Hawk-Navajo Wars of the Late 1860's

By EDWARD LEO LYMAN



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During the first decade of their Southern Indian Mission, located in southern Utah and northern Arizona, Latter-day Saint missionaries, mainly led by Jacob Hamblin, enjoyed much success cultivating friendship and proselytizing the Indians of the vicinity.¹ Some converted Southern Paiutes living along the Santa Clara River called themselves “Paiute Mormons.” They worked with the missionaries in marked harmony improving their lives and agricultural operations in what was soon called Utah’s Dixie. However, much of this cordiality essentially disappeared near the time of the horrible Mountain Meadows Massacre in 1857 in which members of both groups participated. During this time of growing mistrust, other Native Americans took advantage of the continued tension between the

Kwi-toos and his son, Paiute Indians who lived along the Virgin River in southwestern Utah. Photographed by John K. Hillers of the Powell Expedition, 1871-1875.

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¹ The Southern Indian Mission was established in 1854. Rufus Allen headed the mission and often assigned Jacob Hamblin to serve among the Tonequint band on the Santa Clara River. When Hamblin became head of the mission in mid-1857, it became largely centered on the Santa Clara to the south. See Thomas D. Brown, in *Journal of the Southern Indian Mission: Diary of Thomas D. Brown*, ed. Juanita Brooks (Logan: Utah State University Press, 1972), 52-105.

Mormons and the federal government to engage in extensive raids on southern Utah and elsewhere in the territory. Southern Paiutes of the region often bore the brunt of blame and hostility for actions in which they were at best usually only peripherally involved or responsible.

The general hostilities in central Utah were known as the Black Hawk War, named for Black Hawk, a northern Ute, which persisted from 1865 until 1870. At the same time renegade Navajo and allied Indians extensively raided the livestock herds of Dixie's ranchers. During this conflict church leaders intentionally kept many of the Black Hawk War developments and associated thieving in southern Utah from public notice. They did not wish to invite U. S. Army involvement in that region. Brigham Young confided to Apostle Orson Hyde, "our policy has been to say as little to the troops or to the officials of government respecting our Indian difficulties as we could possibly help. We prefer settling them ourselves, for their interference would very likely be hurtful and might precipitate a general Indian war."²

Some of the details of the Indian conflict in southern Utah and subsequent peace treaty (1870) established by Jacob Hamblin, Major John W. Powell, and Indian agent Captain Frank Bennett have been discussed briefly before, but many details regarding the conflict and its termination are herein discussed for the first time.³

The Tonequint band of Paiutes, who had engaged in corn growing for years prior to the coming of the Mormons, were some of the first people Jacob Hamblin was called to work with. On an early visit among them, Mormon church authority George A. Smith counted thirteen different irrigated Native American corn fields along the Santa Clara River, and commented that Hamblin and his associates were "doing much for the benefit of Indians." Hamblin recalled the Tonequints had accepted the challenge to work for a living and also "promised to be honest." For a time they agreed to live by a code which stipulated that anyone who stole would either pay the full price for whatever was taken or would be punished by fellow Paiutes—with Hamblin sometimes prescribing the severity.⁴

After a notable attempt to follow missionary precepts and live as exemplary church members, Hamblin recalled an occurrence he apparently set in the winter of 1856-57 when his charges among the Tonequint Paiutes informed him, "we cannot be good, we must be Paiutes." They

² Brigham Young to Orson Hyde, June 11, 1867, Brigham Young Papers [letterpress copybooks], Archives of The Church of Jesus Christ of Latter-day Saints, Salt Lake City, Utah, hereafter LDS Church Archives.

³ Charles S. Peterson, "Jacob Hamblin, Apostle to the Lamanites, and the Indian Mission," *Journal of Mormon History* 2 (1975): 21-34. Professor Peterson much improved this present paper with his comments.

⁴ James A. Little, *Jacob Hamblin: A Narrative of His Personal Experiences as a Frontiersman, Missionary to the Indians and Explorer* (Salt Lake City: Juvenile Instructor Office, 1881), 44.; later republished by Preston Nibley, comp., *Three Mormon Classics: Leaves from my journal [by] Wilford Woodruff; My First Mission [by] George Q. Cannon; Jacob Hamblin [by] James A. Little* (Salt Lake City: Stevens & Wallis, Inc., 1944. Hereinafter cited as Little-Nibley, *Hamblin*; George A. Smith report, "Historian's Office Journal," August 19, 1857, LDS Church Archives.

expressed hope the missionaries would continue to assist them and affirmed that perhaps some of their children could be as “good” as the Latter-day Saint lifestyle prescribed. In a most telling statement of the extent to which Paiute tradition controlled their lives, they decreed: “we want to follow our old customs.”⁵

There are several other reasons for this change as well. Santa Clara sub-chief Jackson stated to Major James H. Carleton that he at least had some impatience with former Mormon allies both for blaming them too much for the Mountain Meadows bloodshed and also for taking more than their share of the loot from the attack.⁶ Apostle George A. Smith reported to Brigham Young after the tragedy, “I have been told that since the trans-action [massacre] many of the Indians who had previously learned to labor have evinced determination not to work, and that the moral influence of the event upon the civilization of the Indians has been very prejudicial.”⁷ Under the circumstances, there are good reasons to have expected this.

Many Mormons shared the goal of eastern reformers of trying to culturally assimilate the American Indian into white society. This it was thought by reformers might closely parallel agricultural and economic development of the Indian in the American West as well. Hamblin and other Indian missionaries in Utah’s Dixie worked to improve the Southern Paiutes agricultural skills and enjoyed more success with them than with other Indians of the region. Some later observers consider this initial success with the Southern Paiutes to be the greatest ever in Mormon proselyting among Native Americans. But the success was not permanent. Older cultural ways reasserted to end the process and recent scholars have concluded that such assimilation asked too much in requiring native

⁵ Little-Nibley, *Hamblin*, 229–32, 240–41. This included fights between factions representing claimants for the hands of particular marriageable Indian women—in which the bride often received the brunt of the injuries. See also Pearson H. Corbett, *Jacob Hamblin: The Peacemaker* (Salt Lake City: Deseret Book Company, 1968), 64; Milton R. Hunter, *Utah Indian Stories* (Salt Lake City: Mountain States Bindery, 1946), 136–40, 250–53.

⁶ James H. Carleton, “*Special Report: The Mountain Meadows Massacre*,” to Maj. W. W. Mackall, Assistant Adjutant General, United States Army, San Francisco, California, (Spokane: Arthur H. Clark, 1995), 25–30. See also Edward Leo Lyman, *The Overland Journey from Utah to California: Wagon Travel from the City of Saints to the City of Angels*, (Reno: University of Nevada Press, 2004), 136–37. Leland H. Creer and Charles S. Peterson suggest that missionaries among the several Paiute bands were “unable to counteract the bad influence” of the massacre in altering the relationships between Mormons and those Indians who had been before so cordial. See Leland Hargrave Creer, “The Activities of Jacob Hamblin in the Region of the Colorado,” in Robert Anderson, ed. *University of Utah Department of Anthropology Papers*, No. 33, (Salt Lake City: University of Utah Press, 1958), 9, and Peterson, “Jacob Hamblin,” 25–33.

⁷ G[eorge] A. Smith to Brigham Young, August 17, 1858, in Historian’s Office Letterpress Copybooks, LDS Church Archives. An example of the changed attitude is that Chief Coretio of the Cedar City area demanded Indian farmer John D. Lee give him a beef, ammunition, a shirt and other items, reportedly appearing “stiff and saucy” during the exchange. Lee held an extensive discussion about the Indian leader’s departure from past promises to work for a living and to help maintain cordial feelings toward the Mormons. Coretio admitted he had changed his attitude and actions and agreed Lee was correct in chastising him, after which he promised to resume his former positive leadership. See Robert Glass Cleland and Juanita Brooks, eds., *A Mormon Chronicle: The Diaries of John D. Lee*, 2 vols., (San Marino, CA: The Huntington Library, 1955), 1: 167–68.

peoples to abandon their deeply held cultural traditions.⁸

Hamblin recognized another change that took place among the Southern Paiutes during the next several years which was perhaps equally crucial in the decline in “the spiritual feelings of the Indians of southern Utah.” He recalled many “long talks around the campfires” which had helped maintain “a friendly feeling in their hearts.” However, the settlement of St. George in 1861, and a simultaneous lessening of missionary activity among the Tonequints, seemed to have induced “the feelings of the Indians toward the Saints [to become] more indifferent and their propensity to raid and steal returned.” Hamblin attributed the decline of hospitable relationship to the “great number of animals brought into the country by the settlers.” Their livestock, he reported, “devoured most of the vegetation that had produced nutritious seeds [on] which the Indians had been accustomed to subsist.”⁹ Ethnobotanists now recognize this had been their most essential food source.

Consequently, when Paiute children went hungry the ensuing winter, the Indians expended much time discussing with Hamblin and others these disastrous changes with increasingly great resentments. Mormon livestock-



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Paiute Indians on the Kaibab Plateau in the 1870s playing the game of “Kill the Bone.”
Photographed by John K. Hillers of the Powell Expedition.

⁸ For further information regarding Indian assimilation, see Ronald W. Walker, “Toward a Reconstruction of Mormon and Indian Relations: 1847-1877,” *BYU Studies* 29 (1989): 23-42; Clyde A. Milner, II, “Off the White Road: Seven Nebraska Indian Societies in the 1870s—A Statistical Analysis of Assimilation, Population and Prosperity,” *Western Historical Quarterly* 12 (January 1981): 37; and John Alton Peterson, *Utah’s Black Hawk War* (Salt Lake City: University of Utah Press, 1998), 87.

⁹ Little-Nibley, *Hamblin*, 290; Angus M. Woodbury, “A History of Southern Utah and its National Parks,” *Utah Historical Quarterly*, 12 (July-October 1944): 167. Robert A. Bye Jr., “Ethnobotany of the Southern Paiute Indians in the 1870’s: With a Note on the Early Ethnobotanical Contributions of Dr. Edward Palmer,” in Don D. Fowler, *Great Basin Cultural Ecology Symposium*, *Social Science* No. 8 (Reno: University of Nevada Press, 1972): 88-91 states, “the exploitation of the natural resources in the environment, indicates that the Southern Paiutes were not pawns of a harsh environment, but a culturally adapted people in an area with varied natural resources, [and that the]...seeds collected, parched, ground, and prepared in various forms....” were an essential part of the Paiute diet.

men did not understand that almost in a single year their cattle essentially destroyed the grass seed supply that had been the staff of life for many of the native inhabitants. The Dixie pioneers also had difficulty making a living and adding to their burden they found themselves besieged by the begging of their impoverished Indian neighbors.¹⁰ Hamblin noted that, “those who had caused the troubles were completely oblivious to what had occurred.” He confessed having grieved many times to see the Indians with their little ones “glaring upon” the plenty enjoyed by the settlers. He attempted to raise the sensibilities of the Latter-day Saints on the matter and encouraged more generosity toward the neighboring Indians, but lamented he had experienced little success.

On at least one occasion Hamblin also complained to Apostle George A. Smith that it appeared Brigham Young sought to “deprive the original settlers on the Santa Clara, or the Indians of the water” of the river and to “build up St. George at the sacrifice of [Santa Clara and Tonequint].” Smith assured Hamblin this was not true, but promised to discuss his concerns with the church leader. It is doubtful the situation improved before Hamblin was transferred to the Kanab-Pipe Springs area. Already the church had called a relatively large group of Swiss converts to settle at Santa Clara, requiring even a larger share of the already-scarce irrigation water. The Paiutes were clearly not the major concern of President Young in this course of events.¹¹ Deprived of water and other resources needed for the band to survive, most of the Tonequints, during the succeeding years, died from hunger and disease, an almost forgotten tragedy.¹²

With many of their familiar food resources destroyed by whites, Native Americans of the area felt justified in butchering and eating some of the livestock ranging on their traditional lands. Even before Hamblin's move to Kanab, those Indians who were innocent of wrongdoing still “desired to be friends,” yet, he noted, they had, “almost invariably been the ones to suffer,” mainly blamed for cattle that were stolen. The guilty, were “on the alert, and have got out of the way,” while those who remained unoffending

¹⁰ Andrew Karl Larson, *I Was Called to Dixie: The Virgin River Basin: Unique Experience in Mormon Pioneering* (St. George: Dixie College Foundation, 1961, (reprint, 1992), 38-54 for other Native American grievances. See also Juanita Brooks, “Indian Relations on the Mormon Frontier,” *Utah Historical Quarterly* 12 (January-April 1944): 26-27, for comments on Mormon charity toward Dixie Native Americans. And William R. Palmer, “Pahute Indian Homelands,” *Utah Historical Quarterly* 6 (1933): 88-90, discussed some of the appalling attitudes of some southern Utah residents toward Native Americans in the succeeding generation.

¹¹ Little-Nibley, *Hamblin*, 290-91: George A. Smith to Jacob Hamblin, November 3, 1863, copy in Historian's Office Letterpress Copybooks, 2: 9, LDS Church Archives.

¹² Pamela A. Bunte and Robert J. Franklin find that “During the later decades of the nineteenth century, many Southern Paiutes literally starved to death when their water sources and farmlands fell into the hands of whites and even wild plant and animal resources were depleted by cattle grazing and other Anglo economic activities....Mormons had already subjugated virtually all of the other existing Southern Paiute communities and thereby set in motion the political and economic process that would reduce these Indians to utter poverty by the early twentieth century.” Pamela A. Bunte and Robert J. Franklin, *From the Sands to the Mountain: Change and Persistence in a Southern Paiute Community* (Lincoln: University of Nebraska Press, 1987), 5, 53.

“have been the sufferers.”¹³

After a period of considerable tension with the Mormon settlers in central Utah, neighboring disgruntled Ute Indians followed Black Hawk and began launching raids on Mormon settlements in April 1865.¹⁴ Individual members of related tribes and bands, including some Southern Paiutes, joined in what was a protracted conflict. However, most Southern Paiutes remained at least neutral and were often innocent and wrongly-accused victims of a seemingly blind hatred toward all Native Americans—whatever the doctrines of Latter-day Saint faith concerning the matter—whether those particular Indians had done their neighbors any harm or not.¹⁵

The first group to suffer at the hands of the Mormon militia were members of the Koosharem band of central Utah, sometimes called “horseless Utes,” but who were consistently regarded as Paiutes.¹⁶ In July 1865, while camped near Glenwood, Sevier County, a group of them were warned by a Mormon bishop that the territorial militia was on the lookout for Black Hawk and his followers, and urged them to move their camp elsewhere. By happenstance their new camp was in a juniper thicket surrounded by meadows where a patrol of Mormon militia, who presumed they were on Black Hawk's trail, also made their camp. When the Mormon pickets discovered that the cedars were “full of Indians,” they attacked the band of Koosharem Paiutes killing ten and capturing two members of the band. Later in the conflict a group of women were also killed. The unfortunate episode, which occurred near present Burrville, became known as the “squaw fight.” The actions taken by the militia demonstrated the worst that such a war could inflict upon innocent bystanders.¹⁷



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Paiute Indians performing the Circle Dance. Photographed by John K. Hillers of the Powell Expedition.

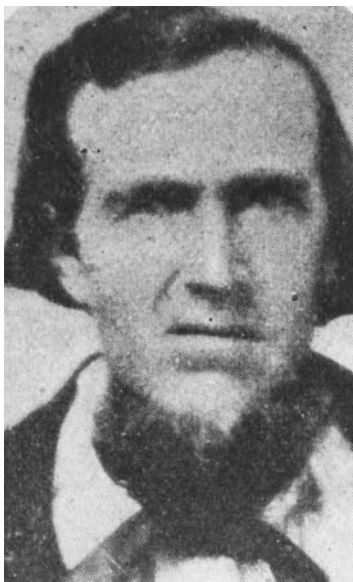
¹³ Little-Nibley, *Hamblin*, 290–91.

¹⁴ For a full treatment of the Black Hawk War, see John Alton Peterson, *Black Hawk War* (Salt Lake City: University of Utah Press, 1998).

¹⁵ See Brooks, “Indian Relations on the Mormon Frontier,” 2–4, for a good summary of Mormon teachings and early experiences with Native Americans.

¹⁶ Winona Holmes, et. al., *Nuwivi: A Southern Paiute History* (Salt Lake City: Inter-Tribal Council of Nevada, 1976), 5–15.

¹⁷ Peterson, *Black Hawk War*, 166; LaVan Martineau, *The Southern Paiutes* (Las Vegas: KC Publications, 1992), 54–57, 149–53.



Jacob Hamblin.

In late 1865, Black Hawk formed an alliance with some of the Navajo Indians who had earlier avoided being captured and moved to eastern New Mexico by Kit Carson and the U. S. Army.¹⁸ Perhaps as many as two thousand Navajo along with a considerable number of their sheep avoided being captured and made their way to the isolated Navajo Mountain area of extreme southeastern Utah. These Navajo included Utah-born Manuelito, one of the nation's most prominent raiding chiefs. Spaneshanks was another of the Navajo chiefs making the same area a refuge.¹⁹

These two chiefs and other Navajos, along with closely-associated Southern Paiutes long residing in that area allied with Black Hawk, agreed to prey upon Mormon-owned livestock in Utah's newly-settled Dixie country.

Although Southern Paiutes have often been regarded as subordinate to the other tribes in the art of war, it is now clear that was not the case.²⁰ The head chief of the San Juan band of Southern Paiutes, Patnish, loomed as one of the primary raider leaders and was prominent in his band's domain near the future Mormon settlement of Moenkopi, some fifty miles into Arizona.²¹

Jacob Hamblin reported that leaders of the San Juan band also exerted considerable influence over other neighboring Paiutes, particularly of the

¹⁸ Robert S. McPherson, *The Northern Navajo Frontier, 1860-1900: Expansion Through Adversity* (Albuquerque: University of New Mexico Press, 1988), 8-18, reports Carson's ruthless policy included an aggressive scorched-earth destruction of cornfields, peach trees, hogans, water holes and livestock. By the next year, more than three hundred Indians had been killed as well as nearly one hundred wounded and more than seven hundred captured. A new military post established on the Pecos river, named Fort Sumner, (also known as Bosque Redondo) was poorly situated. More than three hundred Navajo died before reaching that destination; others slowly starved to death or became ill partly from homesickness and discouragement.

¹⁹ Clifford E. Trafzer, *The Kit Carson Campaign: The Last Great Navajo War* (Norman, Oklahoma: University of Oklahoma Press, 1982, paperback, 1990), 212-21, states "of all the hostile Navajos who remained at large, none was as well known and revered by his own people as Manuelito." He surrendered in September 1866, well before his apparent meeting with Jacob Hamblin in late 1870.

²⁰ Bunte and Franklin, *From the Sands to the Mountain*, 50, indicate that in earlier times, the San Juan Paiutes were eminently successful in controlling Navajo incursions into their tribal lands in the Moenkopi, Arizona, area. See also Jules Remy, *Journey to Great Salt Lake City* 2 vols., (London: W. Jeffs, 1861), 388, 407-408, 412-13, 426-27.

²¹ Bunte and Franklin, *Change and Persistence in a Southern Paiute Community*, 63-65, 67, 74-76. Besides his prominence as a raid leader between 1866 and 1870, Powell associate, Frederick Dellenbaugh, encountered the formidable Patnish two years later in 1872. Mormon leader, Anthony Ivins mentions that in 1875, two years before his death in 1877, he was playing an important leadership role for his band in Arizona. Patnish's Paiute name may have actually been Pangwits, known to have been the leader of the San Juan band in the Navajo Mountain vicinity. This same man was known as Balazchin(i) among the Navajos of that time.

Kiabab band, located closer to the Mormon settlements near later Kanab.²² Men of both these Southern Paiute bands participated in the raids on Mormon livestock, some of which resulted in fatalities on both sides. Thus there is a horrible irony that the raids, partly induced by a Southern Paiute chief, would lead to the punishment of so many innocent fellow tribesmen. While some initial reports linked this aspect of the war to Black Hawk, the Navajo conflict eventually took on a life of its own.²³

Despite a few earlier isolated incidents between Mormons and Navajos, there was little actual hostility between them. The livestock raids and consequent killings on both sides certainly had much more to do with simple acquisition of livestock, probably partly justified by their losses at the hands of the U. S. Army in previous years, than from any actual animosity toward Mormon settlers.²⁴ Some Southern Paiutes associated with the raids were probably motivated by hunger, as well as by firm pressure from neighboring Indians.

To better defend themselves against Black Hawk's alliance, Dixie ecclesiastical leader and recently elected regional commander of the local Utah militia, apostle/military commander Erastus Snow directed his people to erect forts in the various population centers from Kanab to the Muddy River, and encouraged settlers from the isolated outlying areas to gather into the safer and more fortified towns.

Snow, a relative novice at commanding troops, waged vigorous but often ineffective military operations. Fortunately, lesser Mormon military leaders were often more effective. One of the significant standing orders remained to "protect the friendly Indians from murderous Utes."²⁵

Raids on Mormon livestock commenced in earnest in early 1866 when Peter Shirts' isolated ranch on the Pariah River twenty miles east of Kanab was attacked. Shirts had fed some two dozen Southern Paiutes through the early winter, but to his dismay, had lost most of his cattle presumably to Navajos camped nearby. They also stole his draft animals, which prevented him from evacuating his family to safety. Probably the same raiding party made off with even more cattle from Tom Smith who had refused to heed orders to gather his cattle to a safer location. As the local militia became fully engaged, they rescued the Shirts family and soon thereafter engaged some Indians in battle, reportedly killing two.²⁶

Elsewhere, Native Americans stole a large number of sheep and cattle

²² Little-Nibley, *Hamblin*, 291; Woodbury, "Southern Utah," 169; "Journal History of the Church of Jesus Christ of Latter-day Saints," (scrapbook of excerpts from correspondence, newspaper clippings and historical entries), November 23, 1868, March 8, 24, 1869, hereafter *Journal History*, LDS Church Archives.

²³ Peterson, *Black Hawk War*, 215.

²⁴ George A. Smith Journal, December 23, 1870, LDS Church Archives, mentioned Jacob Hamblin's recent report that while in Navajo country he had observed the place where the U. S. Army had destroyed forty thousand Navajo-owned sheep.

²⁵ *Journal History*, November 19, 1865. See also Brigham Young to Erastus Snow and others, May 2, 1866, James G. Bleak, "Annals of the Southern Utah Mission," 323, LDS Church Archives, which apparently later recommended the same policy.

²⁶ *Journal History*, November 19, 1865, March 15, 1866; Peterson, *Black Hawk*, 2.

from wealthy former Texan, Dr. James B. Whitmore. While investigating his losses in early January 1866, Whitmore and his son-in-law, Robert McIntyre, were killed near present Pipe Springs, Arizona, by a band led by Manuelito and Patnish, and Kiabab Paiutes who were compelled to assist them leading the party to the Whitmore cattle.²⁷

A military patrol sent to search for the missing ranchers encountered two Paiutes butchering a stolen beef. After much questioning, using considerable brutal persuasion techniques, one of the Indian prisoners led part of the soldiers to the spot where the two bodies were discovered buried under more than a foot of snow. The second captive took the other militiamen to a Paiute camp secreted in a narrow gulch. There the six Native American men, three women, and several children were greatly surprised by the sudden arrival of outsiders. In a search of the camp, the militiamen found Whitmore's coat and other belongings of their former neighbors. Captain James Andrus shot one of the two Paiutes killed as they resisted the search. The other Paiutes and the earlier captive guide were then taken prisoner and escorted to where their fellows were loading the frozen bodies of Whitmore and McIntyre into a wagon. At that point those ushering the prisoners "lost their patience," turned the prisoners loose, "and then shot them." The incident cost at least seven Native American lives.²⁸

A subsequent investigation by Jacob Hamblin revealed that the Indian victims were guilty of no more than being forced to assist in the livestock stealing and accepting the incriminating clothing along with a large supply of presumably Navajo-made arrow points. Hamblin later admitted to other Navajo and army leaders that the wrong people had been punished for the two Mormon deaths.²⁹

In early April a party of thirty Indians ambushed two brothers, Joseph and Robert Berry, and Robert's pregnant wife, Isabel, while traveling by wagon toward their home of two years at Berryville (later Glendale, Long Valley). They made a break for safety but when one of their draft horses was killed, they were overcome by their assailants. Isabel was allegedly tortured with additional arrow shots in front of her husband before each finally died.³⁰ While several other Indians were reportedly killed in the attack, only one body remained at the scene.

Major John Steele reported to Gen. Snow that the Paiutes blamed the

²⁷ Peterson, *Black Hawk War*, 220, 223–24 mentions the raiders were later ambushed by Hopi enemies and eleven of the sixteen were killed, also losing the livestock.

²⁸ Journal History, January 26, 1866; Woodbury, "Southern Utah," 168; Peterson, *Black Hawk War*, 220. One version of the event recorded by a daughter of Edwin D. Woolley Jr., a participant, in "Notes on Father's Life," Edwin Dilworth Woolley Jr. Papers, Harold B. Lee Library, Special Collections, Brigham Young University, Provo, Utah, 8, quotes the then young militiaman, Woolley, saying: "I never was so ashamed of anything in my life. The whole thing was so unnecessary." It is possible his attitudes changed some after his own brother was senselessly murdered by Native Americans in the Mojave Desert of California three years later. McIntyre had two brothers in the group that did the Utah killing.

²⁹ Journal History, November 21, 1870.

³⁰ Journal History, April 12, 1866, Woodbury, "Southern Utah," 170.

attack on Navajos, who also supposedly took the horses and looted the wagon. But the militia major asserted he and his associates believed “the Piedes [Utah Paiutes from closer to Cedar City] were the Navajos,” guilty in this instance, and that it was done in retaliation for some Paiutes recently killed by Berryville–Long Valley settlers when an Indian man, woman and child were caught roasting a stolen beef. However, rancher and fellow militiaman, William B. Maxwell, from Short Creek and closer to the murder site, identified the remaining dead man as a well-known old Navajo chief, Banashaw, better known among the Mormons as Spanish Shanks or Spanashanks. Hamblin agreed. This fully established the involvement by outside raiders.

Spaneshanks had formerly enjoyed a cordial relationship with Hamblin and Indian missionary, Ira Hatch, who had married his daughter, Sarah. Hunger and alienation had doubtless altered the old chief’s loyalties. Spaneshanks was a brother of Barbaneito, one of the most prominent of all Navajo chiefs, who with most of his people had been forcibly removed to New Mexico. In a later conference with Hamblin, Barbaneito acknowledged “a relative of one of the chiefs had been killed by the Mormons,” and promised that if other tribal raiders were so lost on such unauthorized missions, he would not mourn their fate.³¹

Some Mormon militia pursuing the stolen Whitmore livestock identified some of the Indian raiders as “Kebbits,” probably Kiabab or Shivwits Paiutes. George A. Smith, closely connected to the southern Utah militiamen, reported to Utah Territorial Governor, Charles Durkee, that the Kiabab Paiutes involved in the Whitmore killings appeared “to be in the employ and no doubt under the personal supervision of some Navajos.”³²

Even those Mormons most hostile to Indians acknowledged that “the Piedes appear to want to be friendly,” though some were still suspected of thievery. Maxwell, who was sometimes among the suspicious, employed five Paiutes to track his stolen horses and if possible apprehend the murderers of the Berrys. But incidents between Mormons and Indians elsewhere assured that a fully resumed Mormon–Paiute alliance—which could have done so much good at the time—would not yet come to fruition.

On April 21, 1866, some Indians near Marysvale ambushed a small group of militiamen, killing Albert Lewis and wounding three others. The next day, a firefight occurred near Fort Sanford at the mouth of Bear Creek on the Sevier River between two other Mormon militiamen and two Indians, one was wounded on each side and the other Native American

³¹ Journal History, April 8, 9, 12, 1866, November 21, 1870; Woodbury, “Southern Utah,” 170. Jacob Hamblin and some of his missionary associates had previously interacted with Spaneshanks in his own tribal domain. On at least one occasion he had overruled those inclined to kill Mormons. Later Hatch and Hamblin learned Spaneshanks had been replaced as a chief by his son and more recently both appeared disposed to participate in the raids on Mormon livestock. See also Little–Nibley, *Hamblin*, 267, 292.

³² G. A. Smith to His Excellency Charles Durkee, Journal History, March 11, 15, 1866. See also Corbett, *Jacob Hamblin*, 248, 251.

killed. Two days later, another small group of Paiute men entered nearby Panguitch and voluntarily surrendered their weapons and indicated a willingness to talk, which in light of recent developments would have taken considerable courage. Yet subsequent efforts to similarly disarm other Native Americans residing nearby led to a retaliating flurry of arrows, wounding one militiaman. Other militiamen opened fire killing two, capturing two and the others escaped. One of those killed was a Paiute shaman, Old Doctor Bill, who with some of his tribesmen believed he could not be killed by white men's bullets.³³ George A. Smith's cousin, Silas S., reported the Indian's death "cowed the Indians more than the loss of twenty warriors would" have done.³⁴

Just days later, a group of friendly Paiutes residing north of Circleville were persuaded to come into town for a "talk." Once there they were informed they were suspected of aiding Black Hawk and were thus made prisoners. Perhaps terrified of what had happened near Burrville, some allegedly "confessed to [carrying] ammunition to the hostile Indians." Oluf Larsen recalled "a few men in the community exhibited great hatred to the Indians," and they eventually seized control of the situation.³⁵ When some of the captives were reportedly discovered cutting the thongs that bound their wrists in an attempt to escape, a one-sided fight ensued in which six of the nine Indian men were killed. The captors quickly concluded that they needed to cover their deed by destroying "every Indian old enough to tell." The other three Paiute men, five women, and two older children were taken from the cellar jail and had their throats cut, perpetrating what some consider the "greatest single tragedy of the Black Hawk War" (although the "squaw fight" probably cost as many lives).³⁶

Despite these incidents, southern Utah leaders were counseled to "treat the friendly Indians well, to let those who [were] 'mad' feel that they [the Mormons] mean to protect themselves and can punish aggressions; and that

³³ Linda King Newell and Vivian Linford Talbot, *A History of Garfield County* (Salt Lake City: Utah State Historical Society, 1998), 65-66; Peter Gottfredson, *Indian Depredations in Utah* (Salt Lake City: privately printed, 1969), 190-94; and Albert Winkler, "The Circleville Massacre: A Brutal Incident in Utah's Black Hawk War," *Utah Historical Quarterly* 55 (Winter 1987): 4-21.

³⁴ *Journal History*, April 22, May 10, 29, 1866; Alexander Matheson oral interview by William R. Palmer, November 1, 1931, transcript William R. Palmer Papers, Southern Utah University Library, Special Collections, Cedar City, Utah; Newell and Talbot, *Garfield County*, 65-66.

³⁵ The Oluf Larsen quote is cited in Newell and Talbot and was written to George A. Smith, *A History of Piute County*, 85.

³⁶ Peterson, *Black Hawk War*, 244-47. A seemingly patently false report of the Circleville massacre from a presumed relative of the military officer in charge of the guard perpetrating the atrocities, Major J. R. S. Allred, who was himself absent from the scene at the fateful time. The account attempted to help justify what happened by citing the common belief at the settlement that Black Hawk and his Paiute, Pahvant Ute, and Navajo allies intended to commemorate the Mormon holiday of July 24 by attacking Circleville. On the night of the killing, the correspondent later falsely informed Apostle Smith, the Indian prisoners "rushed on the guard with clubs striking them with the same. The guard killed 16 of them which was all of the band except four children which [they held] yet" in their custody. It is doubtful if anyone was ever disciplined for these killings or for issuing such a fabricated account of the events. See William J. Allred to George A. Smith, *Journal History*, May 5, 1866.

when the savages cease their depredations they will be treated with that kindness which they have uniformly received in the past.” In light of recent events, this appears to be the words of a naive person, although still a worthy goal with which many would agree.³⁷ Despite contrary feelings toward some, the fact that Southern Paiutes still so much trusted and cooperated with Mormons in Southern Utah is an impressive testament to Native American ability to forgive past injustice. Yet, on the other hand, the Indians were also doubtless aware that unless they were willing to side with Black Hawk's raiders or the Navajos, cooperation with the Mormons and their militia was virtually their only alternative.

By late 1866, about a hundred Mormon families had been evacuated from the outlying areas of extreme southern Utah where the killing of five Mormons and most of the cattle stealing had taken place earlier. However, some settlers cautiously returned to the abandoned grain fields to harvest what in some places proved to be a bumper wheat crop. While Mormon families were away, friendly local Native Americans guarded these fields as well as other property.³⁸ Later, some settlers grazed their livestock on range-lands of their former homes in Long Valley and near Kanab rather than on the already overgrazed lands near St. George.³⁹

For most of the remainder of 1866, relative peace prevailed in Utah's Dixie. However, during the last week of that year raiding Navajos stole thirty horses and perhaps more cattle from the Pine Valley area north of St. George. The militiamen overtook the raiders south of the Virgin River where a battle ensued. According to militia leaders, Andrus and John Pearce, eleven Native Americans were killed and all of the stolen livestock recovered, making this probably the most successful retaliation against any raiding party in the region. A degree of calm was thus restored for most of another year.⁴⁰

During the early period of Indian raids and military action by the Mormon militia, Jacob Hamblin declined to be involved against the local Paiutes. He had other pressing concerns after the recent death of a wife and did not relish opposing people related to those he had preached among so extensively, although he had yet done but little proselytizing among Native Americans in the vicinity of most retaliatory and defensive campaigns south and east of Santa Clara. He was also far from healthy during the first

³⁷ Journal History, May 10, 1866; Brigham Young, Heber C. Kimball and Daniel H. Wells to Erastus Snow, May 3, 1866, in Bleak, *Southern Mission*, 325, states “the friendly Indians who are in our midst should not be treated, nor be made to expiate the wrongs of those who are hostile, but if while they are making professions of friendship to us, they are our secret enemies [for helping belligerent Indians, we need to know that]. If their friendship is real they can give us evidence of it by informing us respecting the movement &c of the others which may come to their knowledge.”

³⁸ Andrew Karl Larson, *Erastus Snow: The Life of a Missionary and Pioneer for the Early Mormon Church* (Salt Lake City: University of Utah Press, 1971), 396; Woodbury, “Southern Utah,” 172.

³⁹ Journal History, December 29, 1866.

⁴⁰ Journal History, January 4, 8, 1867; Woodbury, “Southern Utah,” 172. See also Anthony A. Ivins, “Traveling Over Forgotten Trails,” *Improvement Era*, 22 (January, 1919): 412.

several years of the Navajo-related conflict.⁴¹

During this period, the Indian policies of leading church authority and military commander Erastus Snow troubled Hamblin. There is no hint the church leader ever ignored his counsel and much that he valued it, but Hamblin was still frustrated that his own approaches to resolving conflicts and misunderstandings with local Native Americans had not been more fully implemented.⁴²

Finally in 1867, church leaders directed Hamblin to get into closer touch with the Paiute Indians residing east of the Virgin River and “do his best to pacify them.” He sought out major concentrations of these Native Americans and held lengthy conversations with them, to good effect. Some of the younger men, a number of whom had dreams that Hamblin was coming among them, expressed a willingness to assist the missionary in keeping a lookout at the Colorado River crossings and nearby passes for invading Navajo and allied raiders.⁴³

In the Kanab-Pipe Springs area, Hamblin cemented a firm relationship with members of the Kiabab band helping them plant corn and vegetables. He also held additional peace parleys in which he persistently urged even more cooperation in preventing further livestock-stealing incursions of Indian raiders by guarding the fords of the Colorado and associated trails leading to the Mormon settlements. The resulting surveillance doubtless helped discourage some raiding party activities.⁴⁴

Nevertheless, in November of 1868, militia leaders still estimated from thirty to fifty “Indian thieves prowling around in two and threes.” One of the finest frontier scout-Mormon missionaries, Thales Haskell, specifically described some Navajo raiders’ tactics: “These Indians would cut down a small tree and with one hand hold the tree up and [would] crawl along and drive off a herd of cattle or horses before we could imagine Indians anywhere around. While our guards were looking, they with the little tree were perfectly still.” Another method, he recounted, was to “...skin a yearling calf, leave its head and hoofs on, get inside this hide and let down the bars of our field and corrals and drive off our animals.”⁴⁵

Jacob Hamblin through friendly Paiutes ascertained that a large number of Navajos were then residing semi-permanently on both sides of the Colorado River, considerably north of their usual tribal lands. He also

⁴¹ Nibley, *Hamblin*, 295; George A. Smith Diary, March 2, 1866, states “went over to Santa Clara with Bro. R. Bently and administered to Bro. Jacob Hamblin who is still very sick. . .” See also Corbett, *Jacob Hamblin*, 248, 251.

⁴² Corbett, *Jacob Hamblin*, 248, 251.

⁴³ Woodbury, “Southern Utah,” 175; Corbett, *Jacob Hamblin*, 259, 261, 263.

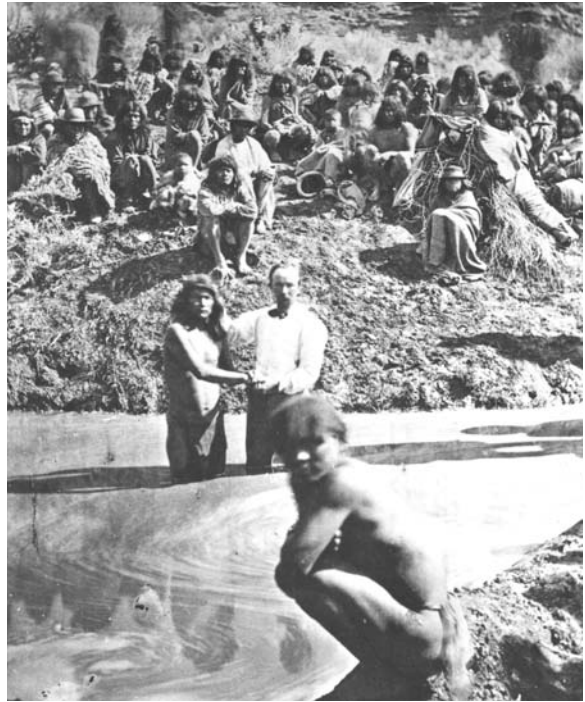
⁴⁴ Woodbury, “Southern Utah,” 175.

⁴⁵ Journal History, November 23, 1868; Kate B. Carter, ed., *An Enduring Legacy* 16 vols., (Salt Lake City: Daughters Utah Pioneers, 1979), 2: 331, contributed by Irene U. Smith, material said to be “apparently written by Thales Haskell.” See also Woodbury, “Southern Utah,” 176, and Erastus Snow to B. Young, Journal History, December 2, 1868, which reported the “Navajos came in on foot, with their lariets and bows, and divided in squads of two or three, and operated in the night, in different quarters, so rapidly as to baffle pickets and get away with some stock. . .”

reported a perplexing rumor that white men were assisting, probably in procurement of arms and ammunition.⁴⁶ Hamblin learned that some Southern Paiutes from the Unikarets and Shivwits bands residing on what was later known as the Arizona Strip, as well as Kiababs, helped comprise the raiding parties. Some neighboring Halupais were also persuaded to participate with the Navajos to raid Dixie Mormon livestock herds.

Yet Hamblin's Indian allies proved quite effective. In November 1868, they warned of Navajos near St. George. While Captain Willis Copelan was in hot pursuit of them, friendly Southern Paiutes engaged the same raiders in battle, killing two and recovering twenty horses. A month later, Royal J. Cutler, a Mormon called to settle in future southern Nevada, lost twenty-seven horses and mules from the lower Virgin River area. The always-loyal Chief Thomas of the Beaver Dam band of Paiutes led his small contingent of men in pursuit and retrieved about half of the stolen livestock. Many other stolen animals were subsequently recovered with further Native American assistance.⁴⁷

Other Indians, including Mose chief of the Berryville-Long Valley Paiutes and his vigilant associates, were also significant contributors to the retrieval efforts. Immediately thereafter, a gathering with friendly Indians was held at St. George at which presents were appreciatively dispensed to those who had recently assisted the Mormon militiamen. Neighboring Southern Paiutes again "professed friendship and volunteered [to continue] to resist the incursions of the Navajos." Some of these same Native Americans urged their Mormon allies to "rally" to the common defenses as they were then doing themselves.⁴⁸ Despite occasional successes in appre-



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Baptism of a Paiute by an LDS church missionary near St. George.

⁴⁶ Journal History, March 8, 24, 1869.

⁴⁷ Journal History, November 23, 1868, March 8, 24, 1869; Larson, *I Was Called to Dixie*, 534.

⁴⁸ Journal History, November 23, December 3, 4, 1868, February 25, 1869. See also Woodbury, "Southern Utah," 175.

hending and punishing the Indians, all indications were that the Mormons of extreme southwestern Utah still faced a daunting situation.⁴⁹ Successful livestock raids continued into February 1869. Erastus Snow again ordered the region's livestock to be rounded up and herded under armed guards.

Most of the Mormon territorial militia still remained concentrated on the Black Hawk War in central Utah and northward. The historical records offer no indication that Young ever sent additional military manpower to arrest Navajo raiders and their allies in the southern portion of the territory. With the continuing feud between the Mormon hierarchy and the U.S. army, those Navajo chiefs who escaped being captured previously clearly believed they had little to fear. Young continued to oppose the idea of asking the federal government for military assistance.⁵⁰

By the middle of February 1867, the new Deseret Telegraph system had been completed to St. George providing an important means of communication throughout much of the Utah territory. The inexperienced military commander Snow attempted to conduct part of his operations against the Indian raiders by telegraph dispatch. Unfortunately, most telegrams appeared to arrive too late for officers to get their troops into the field in time to counteract any raiders. Snow's subordinate commanders proved more decisive and prompt in initiative and thus enjoyed more success. Still, raids by the cattle thieves took a major toll on the Mormons and their Paiute friends. In one note to Major Steele, apparently in late February 1869, Erastus Snow reported, "Indians stole horses from corrals [in St. George] last night while guards patrolled our town."⁵¹ The next month, Steele similarly confessed to his longtime friend, George A. Smith, that despite their being "always on lookout for intruders, . . . they [the Navajo raiders] will elude our most vigilant watch," and make off with more livestock loot.⁵²

During 1869, approximately twelve hundred horses and cattle were stolen. By the end of the year, one report cited a one-month total loss of eighty-seven animals, and a monetary liability of seven thousand dollars. This suggests that the financial impact of the southern Utah Indian "war" was most severe economically.⁵³

⁴⁹ Woodbury, "Southern Utah," 175-76.

⁵⁰ Cleland and Brooks, *Mormon Chronicle*, 2: 124 (November 2, 1869), indicates the Navajos also stole livestock at that juncture from most Iron County towns and Beaver. See also Peterson, *Black Hawk War*, 113-22, 358-60.

⁵¹ John Steele Papers, Harold B. Lee Library, Special Collections, Brigham Young University, Provo, Utah, includes section of military correspondence, mainly a packet of scratch paper transcriptions from the telegraph, partly undated. See also Woodbury, "Southern Utah," 175-76.

⁵² John Steele to George A. Smith, March 3, 1869, Young Papers, LDS Church Archives.

⁵³ Journal History, March 8, 24, 1869; Woodbury, "Southern Utah," 177. At the end of 1869, Joseph A. Young and George A. Gurgon sent a compilation by the county surveyor of "losses caused by incursions of Navajo Indians the past month, November." The itemized report noted eighty-seven animals, primarily horses, stolen, estimating the net financial loss at just under seven thousand dollars. See also James H. McClintock, *Mormon Settlement in Arizona*, (Phoenix: privately printed, 1921), 76, which stated the Dixie losses totaled a million dollars. There is no evidence this is any more than a broad estimate, but for the entire conflict, it is probably not an overly high amount.



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In one of the increasingly less frequent dispatches to church headquarters in February 1869, Dixie militia leaders telegraphed Salt Lake City that Chief Mose and his Berryville-Long Valley Paiutes reported, “a great many Navajos in his vicinity stealing stock.” As evidence of the tremendous risk Southern Paiutes then took in siding with the Mormons against their southern neighbors, Major Steele noted that besides the numerous cattle and horses driven off from that area, one adult Indian and two “papooses” had been killed by the raiders, presumably in retaliation for not assisting them or for helping the Latter-day Saints. The local Native Americans certainly understood their dilemma, but in the latter years of the conflict there is no evidence of any Paiutes (at least those residing north and west of the future Arizona border) siding with the raiding parties.⁵⁴

Paiute Indians in conference with a United States Commission on the Virgin River in 1873.

Photographed by John K. Hillers of the Powell Expedition.

The character of the southern Utah Indian war finally began to change late in 1869. Augustus E. Dodge, foreman of the Washington County grand jury, sent a petition to Colonel J. E. Tourtellotte, Superintendent of Indian Affairs for the Utah Territory, complaining that the Navajo renegades and their associates had driven off at least a thousand horses, mules, and cattle and twice that many sheep, and that there had been no federal action taken against the raiders. This may well have been precisely the kind of plea for outside assistance federal government officials had been waiting for. Heretofore, they had been scrupulously kept out of involvement by the

⁵⁴ Journal History, February 25, June 4, 1869. In fact, when Hamblin first received assignment from Brigham Young to commence establishing an outpost at Pipe Springs, he procured, presumably from church officials, at least twenty guns. This included eight Ballard rifles with which to arm the Paiutes who essentially maintained the stronghold midway between Mormondom and the Navajo tribal lands. That certainly proved to be a well-placed use of resources.

Mormon church hierarchy. This action, conspicuously independent of church authority by the group of Dixie citizens, finally drew the full attention of federal officials to the southern Utah situation.

Dodge's plea touched a sympathetic cord with Tourtellotte, who forwarded the complaint to the United States Indian Commission. Officials there then instructed the Superintendent of Indian Affairs for New Mexico to warn the Navajos that if they did not assert themselves to "keep the peace" their annual annuities from the government might be withheld.⁵⁵ This request, however, did not yet bring about the desired result, but other efforts would soon be taken which proved more effective, mainly through similar channels and threats.

The Navajo war caused Jacob Hamblin "many serious reflections." He had always been naturally inclined to find a better means of resolving the matter than fighting. The so-called "apostle to the Indians" continued to be frustrated by Elder Snow's approach to the problems and "wished he were given full authority to go ahead in his own way."⁵⁶ Late in the summer of 1869, Hamblin finally asserted himself. "I spoke to some length," to Snow, "on the policy that had been practiced toward the Red Men and of the policy that should be."⁵⁷ The following summer, Hamblin was finally again made president of the southern Utah Indian mission and could at last more fully implement his preferred direct and personal approach to negotiating with the Indians.⁵⁸ President Young and Apostle Snow both encouraged Hamblin's inclinations. Young also expressed desire for his people to "get along without the killing of any more Navajos."⁵⁹

For at least three years, church leaders had contemplated a fort at the old crossing of the Colorado River at the mouth of the Paria. In late February 1869, Captain Willis Copelan dispatched a patrol of militiamen to the area to search out and locate a suitable place. A month later, John Steele, suggested the militia "blast the rocks" and thus blockade the canyon leading away from the river on the south bank "so that stock could not be driven off at that point."⁶⁰ While Mormon historical sources appear silent on the

⁵⁵ Augustus E. Dodge to Col. Tourtellotte, November 9, 1869, J. E. Tourtellotte to Mr. Dodge, *Journal History*, December 6, 1869; Larson, *Erastus Snow*, 425.

⁵⁶ Corbett, *Jacob Hamblin*, 281.

⁵⁷ Jacob Hamblin, "Journal," August 3, 1869, unpublished holograph manuscript. Harold B. Lee Library, Special Collections, Brigham Young University, Provo, Utah.

⁵⁸ Hamblin, "Journal," February 16, 1869, indicates that earlier in the year, in conversations with Indians, presumably friendly Southern Paiutes, Jacob received the impression "there might be some treaty made with the Navajos."

⁵⁹ Little-Nibley, *Hamblin*, 299-300, Corbett, *Jacob Hamblin*, 281, 287. There is an extreme likelihood that Brigham Young missed a good opportunity for promoting peace earlier by not following through on a report from another trusted friend of the Utes, Albert K. Thurber, who reported the former war leader, Black Hawk, was then willing to visit the Indians residing east of the Moquis (the Navajos) and talk peace. See A. K. Thurber to Brigham Young, July 26, 1869, Young Papers, LDS Church Archives.

⁶⁰ Jacob Gates to Brigham Young, February 28, 1869, Young Papers; John Steele to George A. Smith, March 3, 1869, Young Papers; Erastus Snow to John Steele, January 9, 1870, John Steele Papers, Harold B. Lee Library, Special Collections, Brigham Young University, for mention of proposed fort.

matter, others mention that at some point, someone did use explosives on the surrounding rocks of the more distant passageway at the old “Crossing of the Fathers” or Ute Crossing (at present Lake Powell) almost closing it and doubtless making driving livestock past that river obstacle much more difficult.⁶¹

By the spring of 1870, Hamblin, who was now living in the Kanab-Pipe Springs area, was assisting a group of friendly Southern Paiutes to establish a forty-acre corn-field at the “Pahreer [Paria] post,” (later Lee’s Ferry) where he designated one of the Paiutes to be bishop. Occasionally, Paiute sen-



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tinels vigilant for signs of the Navajo and allied raiders summoned Mormon militia-men, but no animal stealing events occurred in early 1870.

When Major John Wesley Powell first visited the Kanab area in 1870, the year after his famous initial voyage down the Colorado River in the summer of 1869, he expressed astonishment at the losses the Dixie settlers had sustained, including those who had been compelled to abandon their homes for safer locations.⁶² Fully supportive of his friend Hamblin’s desire to visit the Navajos in their homelands, Powell understood that his own future explorations might also be endangered by continued Indian hostilities.⁶³ Subsequently, through proper government channels, Powell arranged for himself and Hamblin to confer with the principal Navajo tribal leaders at Fort Defiance, New Mexico, where members of the tribe

⁶¹ Fran Kosik, *Native Roads: The Complete Motoring Guide to the Navajo and Hopi Nations* (Tuscon: Rio Nuevo Publishers, 1996), 78, which states: “It is believed sometime between 1870 and 1880, the Mormons dynamited this ford to keep the Paiutes and Navajo from raiding Mormon communities in Utah.”

⁶² Dispatch from Kanab to *Deseret News*, Journal History, September 10, 1870. See also John W. Powell, ed., *The Colorado River*, (Washington, D. C.: Government Printing Office, 1875), 128–32.

⁶³ Donald Worster, *A River Running West: The Life of John Wesley Powell*, (Oxford, England: Oxford University Press, 2001), 191–92, 213–14; Little-Nibley, *Hamblin*, 301.

would be receiving their annual federal annuities.

Powell and Hamblin arrived at that destination on November 1, 1870. Greeted by Capt. Frank F. Bennett, then acting as Navajo Indian Agent, they learned he had called a general meeting for four days later, inviting many of the more than six thousand Navajos and all but one of the principal chiefs and two sub-chiefs. Major Powell announced to those gathered his own future Colorado expedition and at that same time praised the Mormon people for their honesty and industriousness. He then introduced Hamblin and asked the Navajos to heed his words. The “buckskin apostle” explained that the conflict between his people and the Navajo had claimed the lives of between twenty and thirty Indian raiders, as well as a lesser number of Mormons. Many of his own people, he asserted, were inclined to retaliate, but that his big chief in Salt Lake City and others had stayed their hand—at least temporarily.⁶⁴

Some among the gathered Navajo were well aware that Hamblin had spent most of his adult life seeking peace with the region's Native Americans and that he “despise[d] this killing.”⁶⁵ Head chief, Barbaneito, understood the missionary to be sincere and pledged to do what he could to accomplish what the emissaries desired. After counseling through the night, Barbaneito readily admitted that some of his people had stolen stock from the Mormons, but justified that Paiutes had led the raids. The head chief informed Hamblin, Powell, and Bennett that the tribal leaders had never authorized the raids. As a gesture of commitment to peace, he pledged that all future stolen livestock, if brought to the home villages, would henceforth be returned.⁶⁶

When asked by Bennett how else he would prevent further raids, Barbaneito replied that, if necessary, he and his associates would request the U. S. Army to assist in apprehending and punishing the thieves. He also requested that the Mormons more carefully guard both Colorado River fords to help discourage further raids. Capt. Bennett pointedly warned that the federal government would send soldiers once more against all Navajos if the Dixie raids did not cease. Bennett specifically instructed Barbaneito to spread this warning among all of his people by Indian messengers so that there could be no chance of misunderstanding on the severity of the matter. Twenty-nine Navajo tribal leaders signed the treaty drafted to reflect the conference agreements.⁶⁷ Later, after the peace treaty had been

⁶⁴ Journal History, November 21, 1870; Little-Nibley, *Hamblin*, 304-5; Corbett, *Jacob Hamblin*, 300.

⁶⁵ Little-Nibley, *Hamblin*, 303-306; Journal History, November 21, 1870. See also Frank McNitt, *The Indian Traders*, (Norman: University of Oklahoma Press, 1962), 93-95; Woodbury, “Southern Utah,” 177.

⁶⁶ Little-Nibley, *Hamblin*, 306; “Journal History,” November 21, 1870; Corbett, *Jacob Hamblin*, 302-305. Peterson, *Black Hawk War*, 218, asserted Barbaneito commenced raiding Utah himself out of vengeance after his brother's death. While this appears extremely doubtful, the question certainly bears further study.

⁶⁷ Frank F. Bennett to Whom It May Concern, Journal History, November 5, 1870, explains the Navajo pledges to church officials. See also Journal History, November 21, 1870; Corbett, *Jacob Hamblin*, 304-305.

finalized, Hamblin offered sheep and horses to Navajo and Hopi Indians to promote friendship and peace and “secure safety for [the Mormon] frontier settlements.”⁶⁸

On the journey homeward, Powell and Hamblin met with principal Navajo chief, Manuelito, who had not attended the New Mexico council. Hamblin recognized Manuelito to be the leader of many of the raids against Mormon settlers. He and his sub-chiefs had already heard the essence of the Fort Defiance accords and they now conceded full support and willingness to comply with the treaty. The returning party also met some of the Paiutes who had allied with the Navajo raiders over the past four years. By then, two of their former leaders had died, and some may have recalled the suspicions of fellow tribesmen to the northwest who believed Jacob Hamblin could cause opponents to die mysteriously if he so desired.⁶⁹ These, too, pledged peace and some of the Paiutes accompanied the Hamblin-Powell group back toward Kanab to meet other Southern Paiutes who had been allied against them and with the Mormons in the recent stock-stealing warfare.

However, Hamblin’s efforts to halt further Indian raids were not yet a complete success. Patnish, the San Juan Paiute chief and co-instigator of many raids in the past, refused to halt his raiding and aimed to “break up the treaty” recently concluded with the Navajos. But despite this threat, the persistent trouble-maker near the end of 1870 made overtures to Hamblin that he, too, would “preach peace,” if sufficient personal gifts were forthcoming. The untrusting missionary ignored this request and advised continued vigilance, lest more livestock disappear. Realistically the Paiute chief simply no longer commanded sufficient manpower to continue his depredations. Hamblin also reiterated Barbaneito’s warning that Utah settlers needed to consistently guard the Colorado fords to help thwart the incursions of the “lawless fellows,” who appeared to be beyond the control of any tribal leaders.⁷⁰

With Chief Black Hawk also suing for peace in the north in 1870, the better-known Black Hawk War came to an end. Hamblin’s actions and negotiations, with the evenhanded treaty supported by the principal Navajo chiefs and others, along with the firm stand taken by the Navajo Tribal Council and the U. S. Army against further raids into Utah, all combined to significantly contribute to the impressively restored peace near the Utah-Arizona border. The actions of the majority of Southern

⁶⁸ Jacob Hamblin to Brigham Young, March 20, 1871, Young Papers, LDS Church Archives.

⁶⁹ Jacob Hamblin reported that a Navajo raid leader, Man-so-nita, had been planning another raid when he sickened and died. Adding to the two Paiute raiding chiefs who had also died, the Indian missionary stated that other Native Americans interpreted “this as a judgement placed upon them by the Mormons.” *Journal History*, November 21, 1870. See also Little-Nibley, *Hamblin*, 234–38, 258.

⁷⁰ Little-Nibley, *Hamblin*, 309–311; Corbett, *Jacob Hamblin*, 314. *Journal History*, December 24, 1870, cites George A. Smith chiding Patnish for becoming a man of peace only when he recognized how many were now prepared to cut off his escapes with his accustomed stolen stock.



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Paiutes consistently seeking to promote peace must also be recognized as a contributing factor in helping restore southern Utah to a far more normalized condition than had existed in some years.

Unfortunately, peace would be threatened once again in the winter of 1874-75, when four young Navajo ventured into central Utah to trade with Ute Indians. During a severe snowstorm they sought shelter in a vacant ranch cabin and killed a calf for food. Soon thereafter, the McCarty family, who were non-Mormon and bitter Indian haters, attacked the presumed trespassers without warning, killing three and severely wounding a fourth, who escaped and made his way back to Arizona to report the tragic incident. When Brigham Young heard of the affair, he sent Jacob Hamblin to the Navajo leaders to explain that the Mormons had not been at all involved in the murders. Upon arrival in Arizona, young members of the victims' families threatened Hamblin. As always, he showed no fear. In fact, one of his com-

John Wesley Powell and Jacob Hamblin meet with Paiute Indians on the Kaibab Plateau in the 1870s. Photographed by John K. Hiller.

panions, J. E. Smith, wrote, “No braver man ever lived.”⁷¹ Hamblin requested the attention of Hastele, a tribesman whom Barbancito had recommended for such purposes. When these two much-trusted representatives combined efforts the matter was resolved without further ill-feeling or violence on either side.⁷²

Hamblin’s life-long work among the Indians of southern Utah helped insure a firm foundation for Mormon presence there—eventually with even some prosperity exacted from the forbidding landscape. However, despite the great missionary’s best efforts, the neighboring Native Americans did not fare so well. The Tonequint Paiutes with whom Hamblin had labored longest, formerly among the most populous bands, essentially ceased to exist within another generation, mainly because of disease epidemics, and a scarcity of food supplies. Other tribesmen fared but a little better. Through the instrumentality of church leader and Indian friend, Anthony W. Ivins, the almost undocumented move of the Shivwits band, virtually displaced by ranchers along the Arizona Strip, were brought to occupy the former Tonequint lands, bringing their name with them for the newly created reservation.⁷³

⁷¹ *The Pioche Record*, February 5, 1875, quoted in Little-Nibley, *Hamblin*, 333.

⁷² Little-Nibley, *Hamblin*, 321–24.

⁷³ Kate B. Carter, ed., *Heart Throbs of the West*, 12 vols. (Salt Lake City: Daughters Utah Pioneers, 1940), 2:440, states “President Ivins has been active in securing for Indians of this section just rights from the federal government. He as a member of the legislature of 1894, secured for the Shebit Indians their first government appropriation, moving them from the Shebit mountain to their reservation on the Santa Clara River. President Ivins has constantly fought for the Indians.” The territorial legislature had no real influence in Indian policy, except to signify Utah citizens approved of the move. At that time there was considerable talk of giving what later became the Arizona Strip to the new state of Utah—action that was not taken. Some members of the various Paiute bands and their sympathizers have blamed Mormons for the Indians’ plight, but there were also some Mormon leaders who were considered friends of the Southern Paiutes. This friendship was recognized by the Paiutes at the time of Ivins’ death when they held their sacred traditional “cry” ceremony for him. Another friend of the Paiutes, William R. Palmer of Cedar City, was invited to observe the ceremony. Later Edwin D. Woolley of Kanab received the same tribute as local Indians mourned the friend they considered irreplaceable. Few others in the inter-mountain region were so recognized by their Native American neighbors.



“The Dearest Laborers”: Pilgrims on the Lightning Road to Zion

By DAVID LYLE WOOD

Married for less than a year and pregnant, twenty-year-old Phoebe Perry Vincent joined the 1861 Milo Andrus wagon train bound for Utah—without her husband. On August 3, when she gave birth to a son near Chimney Rock, her spouse was still absent; nor was the father on hand when, at Independence Rock, the child received a name (Milo C. Beck) and a priesthood blessing.¹ Phoebe was by no means alone in her loneliness, however. That summer, other wayfaring women—married and single—were likewise toiling westward without their men. Though these were not the first members of the fair sex to cross the American plains singly (nor would they be the last), the reason for their seeming abandonment was new. Where were the men? What caused their separation from wives and families?

Phoebe Perry Vincent and her husband John were Mormon convert-emigrants from England. Like many of their co-religionists they were en route to Salt Lake City—Zion to them. Lacking funds

The Salt Lake City Telegraph
Office.

David Lyle Wood is a retired history professor. He wishes to thank the archivists and librarians, especially Melvin Bashore, at the Church History Archives and Library of The Church of Jesus Christ of Latter-day Saints for their assistance. Thanks also to the staff of the American Heritage Center at the University of Wyoming, Laramie for their help.

¹ Captain Milo Andrus named the little boy Milo C. Beck. See Milo Andrus Emigrating Company Journal, 1861 April-May and July-August, entries for August 3 and 21, LDS Church History Archives. In the Ancestral File the name is Milo John Perry Vincent. <http://www.FamilySearch.org>

needed to continue the journey beyond Florence, in Nebraska Territory, John got a job—one that enabled him and his wife to reach their destination, though by divergent routes. He and other Mormon immigrant men helped build the first transcontinental telegraph line.

The idea of transmitting electronic messages via wire was not new. It had been around since the late eighteenth century and various individuals, some in Europe and some in the United States, had conducted numerous experiments and had developed a variety of devices and codes; but it was not until May 24, 1844, that inter-city telegraphic communication became practical. On this day Samuel F. B. Morse seated himself at a table in the Supreme Court Chamber of the U. S. national capitol and tapped out “What hath God wrought.” Then, after moments of suspense-filled silence, Morse’s receiving apparatus began to chatter, recording the exact same message as it came back from Baltimore, Maryland, forty miles away.²

From that day forward the telegraph spread, slowly at first but with accelerating speed, and by the end of 1846 privately owned wires linked Philadelphia with Pittsburgh. By September of the next year Pittsburgh could communicate with Louisville, Kentucky, via Zanesville, Columbus, Dayton, and Cincinnati, Ohio. Three months later the telegraph reached Vincennes, Indiana, and ten days after that it was on the east bank of the Mississippi River. Feeder lines soon appeared, such as that between Cincinnati and Cleveland in 1852.³

Meanwhile, the St. Louis *New Era* newspaper, in 1848, proposed a visionary plan: “A streak of lightning ought to be established to form an instantaneous and constant communication between St. Louis and the Coast of the Pacific.”⁴ In 1850 Amos Kendall (a former U. S. Postmaster General, now deeply involved in telegraph construction as an entrepreneur), was contemplating the establishment of “a line of Electro-Magnetic Telegraph to the City of the Saints.”⁵ Hiram Sibley, president of Western Union Company, repeatedly proposed building a telegraph line to the Pacific, but his board of directors would not approve. Sibley then approached the North American Telegraph Association; again he found little support. Private entities were not willing to take such a big risk.

A telegraph through vast unsettled regions required government support. In 1852 Henry O’Rielly, an avid telegraph builder, and Illinois Senator Stephan A. Douglas petitioned Congress for a transcontinental line, but without success.⁶ Again, in 1857–58 during the Utah War, O’Rielly and

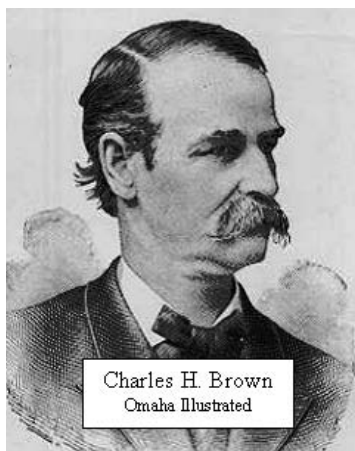
² Robert Luther Thompson, *Wiring a Continent: The History of the Telegraph Industry in the United States, 1832-1866* (Princeton, NJ: Princeton University Press, 1947), 24.

³ *Ibid.*, 81, 116, 117, 120, 122, 123.

⁴ Quoted in Alvin F. Harlow, *Old Wires and New Waves: The History of the Telegraph, Telephone, and Wireless* (New York: D. Appleton-Century Company, 1936), 306.

⁵ John M. Bernhisel to Brigham Young, May 24, 1850, Journal History of the Church of Jesus Christ of Latter-day Saints May 24, 1850, 2, LDS Church Archives.

⁶ Thompson, *Wiring a Continent*, 297, 298, 324, 343, 350; Harlow, *Old Wires*, 306.



Charles H. Brown

others talked about building a telegraph line for use by the U. S. Army in its efforts to subdue the Mormons who, according to O'Rielly, were "resolved on maintaining their rocky fastness."⁷

But the Mormons too wanted an electrical link with the outside world. In January 1853, the Utah Territorial Legislature appealed to the United States Congress for a telegraph connection. "No movement of Congress," read the petition, "could be better calculated to preserve inviolable our glorious Union than to bind the East and West by an Electric stream whereby intelligence and instantaneous intercourse from the eastern to the western limits of our wide-spread country

will annihilate the distance, and make free men of Maine and Oregon, Florida and California immediate neighbors."⁸

Work on a telegraph wire running up the Missouri River from St. Louis to Kansas City, Missouri, had begun in 1850, but Ft. Leavenworth, Kansas did not have a connection until the spring of 1859.⁹ Meanwhile, a line suspended on tall masts spanned the Mississippi. In 1860, a wire from Kansas City reached Omaha in Nebraska Territory and on June 16 Congress passed an act "to facilitate communication between the Atlantic and the Pacific States by electric telegraph."¹⁰

In the spring of 1861, Jacob Gates, agent in charge of Mormon overland travel, sent David Henry Cannon eastward to meet the year's first group of English immigrants. Cannon led them from New York to Florence, Nebraska, via St. Joseph, Missouri, and Nebraska City. "Upon reaching Nebraska City," wrote Cannon, "J. J. Creighton came on board the steamer and wanted to hire men to set telegraph poles from the Missouri River to Salt Lake City....I told him that I did not have the right to contract with him to furnish the men."¹¹ Cannon did arrange for a meeting between Creighton and Gates, however.

⁷ Harlow, *Old Wires*, 309.

⁸ Quoted in Levi Edgar Young, *The Founding of Utah*, (New York: Charles Scribner's Sons, c. 1924), 404.

⁹ Thompson, *Wiring a Continent*, 81, 116, 120, 123, 135; Frank A. Root and William Elsey Conneley, *The Overland Stage to California: Personal reminiscences and authentic history of the great overland stage line and pony express from the Missouri river to the Pacific Ocean*, (Topeka: 1901), 427.

¹⁰ U.S. Statutes at Large, *Pacific Telegraph Act*, 36th Congress, 1st Session, Chapter 137; Thompson, *Wiring a Continent*, 81, 116, 120, 123, 135. Root and Conneley, *The Overland Stage to California*, 427; Johnson's History of Nebraska, see <http://rootsweb.com> (accessed April 10, 2006); Barbara Sorenson, "A king and prince among pioneers Edward and John A. Creighton," (M. A. Thesis, Creighton University, 1961), 48; Harlow, *Old Wires*, 310.

¹¹ Jacob Gates, Journal, May 3, 1861, LDS Church Archives; Daughters of Utah Pioneers, "David H. Cannon Company," *Our Pioneer Heritage*, Salt Lake City: Daughters of Utah Pioneers, 5: 32.

Who was J. J. Creighton, the labor recruiter? Was it John Andrew, Joseph, or James Creighton? All three of these men eventually were associated, in one way or another, with their brother—Edward Creighton—in building the first telegraph line to Salt Lake City. “J. J.” could not have been John Creighton, for he was in Denver, Colorado, from 1860 to 1861 and only belatedly joined the telegraph expedition at Fort Laramie. Joseph Creighton, on the other hand, is an unlikely recruiter, at least in the opinion of Charles H. Brown, Edward Creighton’s bookkeeper, paymaster and secretary, because Joseph “was lazy mentally and physically and so destitute of energy that he neither did nor could to [do] anything. He was a human sloth, yet everybody liked Joe—he was such a good hearted fellow.” Thus, “J. J.” must have been James Creighton a man, according to Brown, “who does his own business.”¹²

Edward Creighton was an experienced telegraph builder who had started out hauling poles; then he had helped establish lines between Dayton and Cincinnati, Toledo and Cleveland, and Toledo and Chicago. After moving to Nebraska Territory in 1856, he had built a telegraph from Omaha to St. Joseph, Missouri. “Ed,” as his workers “respectfully called him ... and which he liked,” could be a “jolly” fellow at times, but more importantly, he was “a resolute, enterprising man,” who had “a great head” with “a great deal in it” and who “knew how to use it.” He was “a steam engine of energy and [had] wonderful powers of endurance.”¹³

It was Edward Creighton who had made a preliminary survey of the proposed telegraph route to Salt Lake City in the fall of 1860. A letter from an anonymous Mormon missionary, published in a November issue of the *Deseret News*, announced: “the agent of the Pacific Telegraph Company,” (a subsidiary of Western Union), was “on his way to Utah and intermediate points for the purpose of making arrangements for putting up the poles and extending the line...and to ascertain at what point the line from California would meet that from the East—the whole to be completed next season.”¹⁴ Creighton arrived in Salt Lake City on December 14. On the twentieth he met with Brigham Young and, according to George A. Smith: “it is understood that he wants to get telegraph poles put up through this desert country for a distance of 500 miles.”¹⁵

Local Mormon contractors would supply these timbers. John W. Young, one of Brigham’s sons, would be one of these. Likewise, Hamilton Gray Park, Brigham Young’s business manager, would be involved. The poles

¹² Charles H. Brown, *Telegraph Train of the Transcontinental Telegraph*, (N.P.) 1861, 67; “John Andrew Creighton,” *The National Cyclopædia of American Biography*, (Ann Arbor, MI: University Microfilms, 1967–1971), 11: 102, 369; “John Andrew Creighton,” *Dictionary of American Biography*, edited by Allen Johnson, Dumas Malone, et. al., 19 vols. (New York: The American Council of Learned Societies, c. 1958–1996), 2: 536.

¹³ Brown, *Telegraph Train*, 1, 46, 51, 78.

¹⁴ “From One Of The Missionaries,” *Deseret News* December, 12, 1860.

¹⁵ *Journal History*, December 20, 27, 1860.

would come from Echo and Weber Canyons.¹⁶

In 1861, Edward Creighton became superintendent of construction for the Pacific Telegraph Company responsible for building the line to Salt Lake City—a portion of what would become the first transcontinental telegraph. Throughout the summer he would constantly patrol up and down the telegraph line in a coach.¹⁷

It is no wonder that Superintendent Creighton looked to Mormon immigrants for help. The newcomers were going to Utah anyway and, perhaps more importantly, the looming Civil War created a labor shortage in the United States. South Carolina seceded from the Union on December 20, 1860, and other southern states soon followed. In February 1861, the seceded states met at Montgomery, Alabama, to form the Confederate States of America. On April 12, 1861, war began when Confederate forces opened fire on Fort Sumter in Charleston harbor and thousands of American men enlisted on both sides. Furthermore, many Mormon newcomers were destitute of means and jumped at the chance to work their way west, while at the same time earning enough to fund their families' continued pilgrimages to Zion.

On May 25, David H. Cannon and his party of Mormon emigrants arrived at Florence, Nebraska. The next day, Jacob Gates went to Omaha and it was probably then that he and Cannon met with Creighton. According to Cannon, he and Gates "went down and met [J.J. Creighton] at Omaha at the appointed time and arranged to furnish him 75 men. We arranged what the salaries of the men would be and that they [the men] were to be delivered in Salt Lake City not later than the 15th day of November. Half of the money that was to be paid these men was advanced to them to apply for the emigration of their families."¹⁸

Charles H. Brown, the secretary, said that the Mormon emigrants who were hired at low wages, "yet they were the dearest laborers we had. They were from the cities and factory towns of England and had, with one or two exceptions, no adaptability to the work they were to do. They could not learn to be handy drivers of oxen, nor to do well and with ease the kind of work for which they were employed."¹⁹ Before the summer was over, Brown would modify his assessment.²⁰

¹⁶ Leonard J. Arrington, "Brigham Young," *Improvement Era* July 1951, 511; Hamilton Gray Park, "Address of President Hamilton Gray Park," (Salt Lake City, s.n., 1912), 1; "Hamilton Gray Park Dies at Advanced Age," *Deseret Evening News*, May 2, 1912; "Park, Hamilton Gray," in *Latter-day Saint Biographical Encyclopedia*, Andrew Jensen, comp. (Salt Lake City: Western Epics, 1971), 1: 685; Levi Edgar Young, *The Founding of Utah*, 406.

¹⁷ Brown, *Telegraph Train*, 1, 46, 51, 78.

¹⁸ Jacob Gates, Journal quoted in *Our Pioneer Heritage*, 5: 32.

¹⁹ Brown, *Telegraph Train*, 4, 9.

²⁰ James Frazier McAllister, a fifteen year old member of the Milo Andrus emigrant company, said that at Fort Laramie Creighton hired a teamster at \$60.00 per month. The pilgrim-laborers probably earned much less. See William James Frazier McAllister autobiographical sketch in Collection of Mormon diaries 1935-1938, in Library of Congress.



JOHN WESLEY CHAMPITT, SKETCHES FROM THE ROCKY MOUNTAINS

No complete roster of the Creighton brother's Mormon employees has yet been discovered, but a few of their names are known. In his autobiographical sketch, Charles Lock Rogers, a nineteen-year old Mormon convert from St. Pancras, London, Middlesex, England, and who had just crossed the Atlantic aboard the ship *Underwriter*, wrote: "by the spring of 1861 I had, by close living, saved enough to bring myself and wife, J. [Jane] Moss, as far as Florence. I sent my wife on to S. L. Valley by Captain Jonsons train [Sixtus E. Johnson Company], I joined the telegraph company that was being built that year...we arrived in S. L. City in good health."²¹ Eighteen-year-old Isaac Barton, a pattern maker from St. Helens, Lancashire, England, who also had emigrated on the *Underwriter*, reportedly drove an ox-drawn wagon, loaded with telegraph wire.²² Edwin Parker, an eighteen-year-old servant from Preston, Candover, Hampshire, England, was employed digging holes for telegraph poles until he reached Fort Bridger, then he strung wire.²³ Twenty-one-year-old James Ward and his wife, Harriet Brown Ward, left Wiltshire, England, in March of 1860. Upon

²¹ Charles Rogers, *Genealogical Surveys of L.D.S. Members Autobiographies and Ancestors*, collected by the Genealogical Society of Utah, Salt Lake City, Utah, 1924-1929, 26: 156; The Church of Jesus Christ of Latter-day Saints, Family Search, Ancestral File; Family History Resource File, C-D ROM Library, Mormon Immigration Index; Mormon Pioneer Overland Travel website: www.lds.org/churchhistory/library/pioneer-company-search.

²² Ancestral File; Mormon Immigration Index; "Isaac Barton, Biographical Sketch, LDS Church Archives, "Blackhawk Veteran Dies Suddenly at His Home," *Deseret Evening News* August 30, 1916; Jensen, *Biographical Encyclopedia*, 1: 676.

²³ Ancestral File; Mormon Immigration Index; "Hooper's Pioneer's Funeral Sunday," *Deseret News* October 1935, 6.

arriving in Omaha, James went to work for Creighton stringing telegraph wires westward; in the meantime Harriet journeyed to Utah with a team and wagon in an unidentified pioneer company.²⁴ Seventeen-year-old John England, a laborer from Bradpole, Dorset, England, also worked on the telegraph and, with the money he earned, helped his parents and five siblings emigrate to Zion.²⁵

Some of the other Mormon telegraph workers had immigrated earlier. John Hymas, from Rayleigh, Essex, England, had sailed to America aboard the ship *Caravan* in 1856. Lacking money to continue westward he had worked at various jobs—in a New York City market, on a farm in “Newbury,” New York, and for the railroad in Iowa where in Council Bluffs he met and courted Mary Ann Pitman. The twenty-one year old John, like other Mormon emigrant men, got a job driving an ox team hauling wire and supplies for Edward Creighton. Meanwhile, Mary Ann Pitman journeyed to Salt Lake City in the 1861 Homer Duncan Company.²⁶ Also in 1860, the twenty-two-year-old laborer John Vincent had come from Caterham, Surrey, England. While he was engaged in telegraph construction, his new bride, the English-born Phoebe Perry Vincent, traveled west as a member of the Milo Andrus wagon train.²⁷

Available information about the Mormon telegraph workers indicates that they were recent immigrants to the United States; they had come from diverse parts of England; they were young men, ranging in age from eighteen to twenty-two; some were married, others were single; most of them were unskilled. All were pilgrims—religious devotees en route to the center place of their faith; they became pilgrim-laborers.²⁸

A few Mormon immigrants who applied for telegraph work were turned away. Frederick W. Blake, an English clerk who had arrived in the United States in 1860 aboard the ship *Underwriter*, wrote:

²⁴ It appears that James and Harriet crossed the Atlantic in 1861 on the ship *Underwriter*—James under the surname “Spakman” and Harriet under her maiden name “Brown.” Ancestral File; Mormon Immigration Index; “Mrs. Ward Dead,” *Ogden Standard Examiner*, March 21, 1902; *Utah Since Statehood: Historical and Biographical*, (Chicago-Salt Lake: S. J. Clarke Co., 1919), 2: 825.

²⁵ “History of John Hymas and his wives: Mary Ann Pitman and Mary Jane Watkins,” *The Hymas family heritage*, 6 (July 1966), 2, 3, 4, 5. (microform #6047243); Mormon Pioneer Overland Travel website.

²⁶ Ancestral File; Mormon Immigration Index; “John England,” *Genealogical Surveys of L.D.S. Members*, 8: 258; “John England,” *Deseret Evening News*, April 23, 1894.

²⁷ “Veteran Church Worker Attains 80th Birthday,” *Deseret News*, February 1, 1919; “Pioneer of 1861, Church Worker, Dies Suddenly,” *Salt Lake Tribune*, April 14, 1929; “John Vincent Funeral April 17,” *Deseret News*, April 15, 1929; *Book of Remembrance of the Sixteenth Ward—Riverside Stake of the Church of Jesus Christ of Latter-day Saints*, (Sixteenth Ward Book of Remembrance Committee, February 22, 1945), 136; Ancestral File; Mormon Overland Travel website.

²⁸ Not all of the 1861 Mormon telegraph-workers were inexperienced immigrants. At least one of them was from Utah. George Sudbury Humphreys had left Utah in 1859 and had worked his way east, first as a teamster, then as a ranch hand, making his way to Omaha, where he worked as a pinsetter in a bowling alley, a bartender, and harvesting ice. In early March 1861 he drove a four-horse-team freight wagon from Omaha to Denver and back; then, James Creighton hired him to drive a wagon to Salt Lake City. Daughters of Utah Pioneers, Mormon Biographical Sketches Collection, LDS Church Archives.

I tried to get hired to go to Utah by the aid of the Telegraph Company under the management of Mr. Creighton, and I went to Omaha with 5 of the Boys, but received no encouragement from him although he took down our names, he wanted experienced Teamsters & of course we would not ... pass as such, as it would have resulted unfavorably to us when we made the start. ... The man Creighton had sought for 12 men & had applied to Milo Andrus for them. Milo advised me to get the names of men. I included my own, but as no definite arrangement was made, the affair broke [through] & most of the men were deprived of the chance of going.²⁹

Blake was more fortunate than the rest; he got a job driving a wagon for the 1861 Church Train led by Ira Eldridge.

Each member of Edward Creighton's telegraph construction crew had a specific assignment—the surveyors marked the route, ax men located timber and cut poles or trimmed away tree branches that might interfere with the telegraph line; and there were teamsters whose wagons carried heavy reels of galvanized steel wire, coils of solder, insulators, batteries, battery chemicals in sturdy wicker-covered glass bottles, tools, kegs of nails, camp equipment, and provisions. Other men drove wagons loaded with poles, dropping them one by one at approximately seventy-yard intervals (twenty-two to twenty-five poles per mile). The diggers worked with pick-axes, crowbars and shovels to dig holes one foot across and five-feet deep. Others worked as pole setters, or wire stringers—men who climbed the poles, installed insulators, and hung the wire. A few of the men were herds-men, managing the livestock. Others were hunters.³⁰ Several individuals assumed more than one of these roles at various times.

If there were, in fact, seventy-five Latter-day Saint men in Edward Creighton's telegraph-building crew, they constituted about 19 percent of the total work force of some four hundred men. Each worker was armed with a navy revolver and a rifle. Creighton used hundreds of mules and oxen and approximately one hundred wagons to move the men and equipment.³¹

The telegraph workers traveled and labored under various wagon-masters: James Creighton (thirty-six wagons); Joseph Creighton (ten wagons); Aaron Hoel (twenty wagons); Matthew J. Ragan (five wagons); George Guy (three wagons); John and David Hazard (fifteen wagons); James Dimmock (five wagons); and Robert Tate (three wagons).

The Mormon recruits accompanied and worked under the Hazard brothers. Ed Creighton's secretary, Charles H. Brown, personally supervised the loading of the Hazards' wagons and recorded what happened. When it

²⁹F. W. Blake, Diary, 1861 Apr.-Dec., LDS Church Archives; Mormon Immigration Index. A William Carroll from Iowa, according to his obituary, drove a wagon loaded with telegraph wire to Salt Lake City. See also *Ogden Standard Examiner*, September 20, 1886.

³⁰Brown, *Telegraph Train*, 60, 96; Thompson, *Wiring a Continent*, 366; Lewis Coe, *The Telegraph: A History of Morse's Invention and Its Predecessors in the United States*, (Jefferson, NC: McFarland & Company, 1993) 39-40; King Peters, *Seven Trails West*, (New York: Abbeville Press, c. 1996), 185.

³¹George P. Oslin, *The Story of Telecommunications*, (Macon, GA: Mercer University Press, 1992), 106; Jeptha Wade, Autobiography, in *Telegrapher*, October 31, 1864, cited in Thompson, *Wiring a Continent*, 363, fn. 16; Peters, *Seven Trails West*, 19.

came time to yoke up the oxen, says Brown, one of the Mormons evoked peals of laughter from the more experienced hands when he “tried to slip the bow, not taken from the yoke, over [the] head and horns” of the off ox.³²

Not all of the telegraph workers started west at once. Matthew Ragan’s train left first—early in May. He had a contract to deliver telegraph poles at Julesburg, about four hundred miles west of Omaha. Proceeding to Cottonwood Canyons, in what is now Lincoln County, Nebraska (some one hundred miles west of Fort Kearny), he and his small crew immediately set to work. By June 21, they had cut and stockpiled about five hundred red cedar poles. In the end, they supplied poles enough to extend the telegraph line from Julesburg to a point about ten miles west of Fort Laramie. (Winter cut, seasoned cedar made the best telegraph poles. It seems that those used by Creighton’s men were less than ideal.) A second telegraph crew, led by James Creighton, left Omaha about May 10; the Hazard brothers’ train, including the Mormon pilgrim-laborers, was the third contingent to embark.³³

These, and the other telegraph parties, followed a well-known, well-beaten path. From Omaha to the Elk Horn River they crossed rolling timberless prairie (except for trees that grew along the banks of streams). Charles Brown commented on the number of squatter cabins along the way. Later, Brown described the Platte River Valley as “broad and beautiful.” The telegraph trains passed through the town of Fremont, crossed Loup Fork River at Columbus, and traveled on to Wood River. After crossing to the south bank of the Platte, they reached Fort Kearny. Here the garrison consisted of one company of dragoons; all other soldiers “had been ordered to Fort Leavenworth to be in readiness to march quickly to aid in the suppression of the [secessionist] rebellion.”³⁴

Beyond Fort Kearny, the telegraph trains followed the Overland Stage route south of the Platte River, passing numerous ranches along the way. West of Plumb Creek (thirty-six miles from the Fort), the pilgrim-laborers found the land becoming dry and teeming with wolves. Hot winds blew. From Cottonwood Springs to Fremont’s Orchard the newcomers got acquainted with various varieties of American cacti, some of which were in bloom—and with prairie dogs and rattlesnakes. As the wagons continued westward, the Platte River Valley gradually narrowed until near Baker’s Ranch it was only about a mile and a half wide.³⁵

³² Brown, *Telegraph Train*, 5, 6, 9, 10, 51. An ox team driver walked on the left-hand side of his animal with the closest ox at his right shoulder. The more distant member of a pair was the “off ox.”

³³ Cottonwood Canyons are south of Cottonwood Springs, an important stopping place for overland travelers, near the modern town of North Platte, Nebraska.

³⁴ Less than a year earlier, the British traveler Sir Richard Burton had found two companies of “dragoons or heavy cavalry, and one of infantry” at Ft. Kearny. Richard F. Burton, *The City of the Saints, and Across the Rocky Mountains to California*, (New York: Harper & Brothers, Publishers, 1862), 43; Brown, *Telegraph Train*, 16, 17, 18.

³⁵ Brown, *Telegraph Train*, 36, 37, 38, 39, 41.

Superintendent Edward Creighton, the last telegraph man to leave Omaha, arrived at Julesburg on June 25. This was where he would commence his construction work since the telegraph line already extended from Omaha to Fort Kearny (built in 1860) and because W. B. Hibbard was building the segment from Fort Kearny to Julesburg. Julesburg was a “town” consisting of one dwelling/stagecoach station, one trading post, and four outbuildings all made of logs. Here, Creighton found George Guy with several loads of poles brought from Cottonwood Canyons (a nine-day round trip). Here also was a large encampment of Cheyenne Indians under the leadership of Spotted Horse.³⁶

The next several days were quite eventful. George Guy was soon off to Cottonwood Canyons for another load of poles. On June 26, “a powerful thunderstorm” struck; first, the sky turned a “pale yellowish color,” then “rain fell in torrents, and the wind blew a perfect hurricane.” In contrast, the twenty-seventh was “a very pleasant cool day—the wind blowing gently.” June 29, the Cheyenne dismantled their lodges, and headed for the Republican River. On this day, too, Matthew Ragan’s train arrived from Cottonwood with nearly four hundred red cedar poles, enough to erect sixteen miles of the telegraph line. Before nightfall, James N. Dimmock, a merchant/freighter on his way to Denver, arrived with three wagons loaded with provisions. Superintendent Creighton hired him and bought his entire stock of goods. June 30, fifteen wagons left Julesburg to bring up more of the poles that Ragan had cut. That night, Charles Brown drew the attention of his companions to a comet that was near the western horizon, but the men didn’t believe him; they said it was only a star. Nevertheless, in his journal Brown noted that the comet tail “constantly increased in length and width until it dropped below the horizon...it was indeed a beautiful sight.”³⁷

At Julesburg, the telegraph trains had to cross the South Platte River described by a contemporary soon-to-be-famous traveler Samuel Langhorne Clemens, as “a melancholy stream struggling through the center of the enormous flat plain, and only being saved from being impossible to find with the naked eye by its sentinel rank of scattering trees standing on either bank.” Charles Brown observed the water was “shallow, yellow, [and] muddy;” though only about a half mile wide at this point, the river was notorious for its quicksand.³⁸

³⁶ Ibid., 41, 44.

³⁷ Ibid., 43, 45, 47. John Tebbutt of Windsor, New South Wales, Australia, discovered the Great Comet of 1861 (formally known as C/1861 J1 or 1861 II) on May 13. It was not visible in the northern hemisphere until June 29 and its closest approach to earth was on June 30, the day Charles Brown called it to the attention of his comrades. It was visible to the naked eye for three months; many observers, in both hemispheres studied it and recorded their findings. See Gary W. Kronk, *Comets: A Descriptive Catalog*, (Hillside, N J.: Enslow Publishers, 1984), 51-52; and <http://cometography.com/comets/1861jl.html> (accessed August 27, 2006).

³⁸ Mark Twain, *Roughing It*, (Hartford: American Publishing Company, 1872), 60; Brown, *Telegraph Train*, 42.

The telegraph men started to cross the river on July 1. James Dimmock's three wagons went first, splashing through up to four feet of water, each vehicle pulled by eleven yoke of oxen. In spite of every precaution, the last wagon stalled in mid-stream and its wheels sank into the shifting sandy bottom. A rescue party had to go in and off-load some of the freight into another rig. The two wagons then made it safely to the western shore. Of course, everyone involved in the crossing got soaked to the skin. One wonders if any of the Mormon immigrants participated.

That the pilgrim-laborers did get wet on the following day seems certain; it was then that the Hazard brothers' wagons crossed. The men were up at early light and began unloading freight: caching some of it and redistributing the rest. When the vehicles plunged into the river, they did so three or four at a time, each pulled by eight to ten yoke of oxen urged on by three drivers. By 5:00 p.m. the entire train was safely across. Although the men had spent much of the day in the water under attack by mosquitoes that were "as bloodthirsty as tigers," Charles Brown reported that "the boys were very cheerful over the good luck attending the day's work, and after supper, which consisted of boiled beans, bread, coffee, fried bacon, and apple sauce, they sang comical and sentimental songs." Brown now expressed qualified admiration for the pilgrim-laborers: "These Mormon boys are strong, healthy, good-natured chaps and some of them possess good fine voices.... They have become pretty good ox drivers;" but he continued: "They are religiously zealous, even to fanaticism." Brown might also have observed, as he did of W. B. Hibbard and his men who arrived at Julesburg on July 1: "The men were looking well and hearty though much bronzed by the sun. Traveling on the plains changes one amazingly and from a city gent he passes—and easy is the transition—to an ox driver, dusty, dirty and browned."³⁹ A month on the trail had apparently seasoned all of the telegraph men.

Also on July 1, the first daily westbound Overland Mail Stage, with its "messenger" frantically blowing his horn, clattered past the telegraph workers in a cloud of dust. The first daily eastbound coach from San Francisco passed the workers twelve days later. Because stagecoach stations were located every twelve to sixteen miles along the road, the pilgrim-laborers were never very far from one of them.

In the meantime, on July 2, the immigrant-laborers' work began in earnest. Charles Brown and Ed Creighton dug the first posthole near the Julesburg stationhouse and by nightfall workers had set a total of fifteen poles (one of them on an island), and they had run wire across the South Platte River. Creighton estimated that in order to remain on schedule, his crews would have to complete at least eight miles of line per day. On July 3, George Guy arrived from Cottonwood Canyons with eighty-one poles; the Hazard brothers' crew dug postholes to Lodge Pole Creek (a distance

³⁹Brown, *Telegraph Train*, 47–48, 49, 50.

of about four miles), and for two miles up its narrow valley; wire stringers completed their work over two-thirds of this distance. Superintendent Creighton and his secretary spent that night in the Hazard brothers' camp on Pole Creek. The following day, Creighton labored alongside the workers for he wanted to watch and instruct them; and he gave them "much sound and practical advice." On this, the Fourth of July, Charles Brown—reflecting upon the reality of the Civil War—quietly wondered to himself if, in years to come, there would be Independence Day celebrations for the United States of America as he had heretofore known them. "Can it preserve itself from disintegration," he wrote; "My prayer is that it may."⁴⁰



Edward Creighton.

The next day, Ed Creighton and Charles Brown drove a mule-drawn buggy to Mud Springs, a stagecoach station some sixty-four miles from Julesburg. Meanwhile, work on the telegraph line continued with the main construction forces—Hibbard's and Hazard's crews—following up Pole Creek to the Upper Station (about thirty-three miles). They then turned almost due north going up and over high, rolling but "wonderfully broken" ground interspersed with numerous long "up and down hills" before reaching Mud Springs—the next available water. Along the way they saw deer and antelope and they passed a group of stagecoach company employees who were digging a well in a futile attempt to find water.⁴¹

Mud Springs Station was located on black marshy ground near where a small freshwater stream pushed its way toward the North Platte River. A year earlier, Sir Richard Burton described the station house as "not unlike an Egyptian fellah's hut," made of "sod half peat with vegetable matter; it is taken up in large flakes after being furrowed with the plough and is cut into proper lengths with a short handled spade. Cedar timber, brought from the neighboring hills formed the roof."⁴² Nearby was a door-less pest-infested dormitory. Both Burton and Charles Brown (the latter in 1861) chose to sleep in wagons.

At Mud Springs, Ed Creighton and his secretary found Jim Dimmock who had been searching for new sources of telegraph poles. His report was

⁴⁰ Ibid., 41, 51, 52, 67. Just seventeen days later, Union and Confederate armies fought the First Battle of Bull Run "at which the Union troops were terribly whipped and driven with great loss." Jacob Gates, the Mormon emigration agent, and two companions who were speeding west in a mule-drawn "light-spring covered wagon, spread the word among the Mormon emigrants." See F.W. Blake Diary, 1861. The news must have reached the telegraph workers at about the same time-- August 1, 1861.

⁴¹ Brown, *Telegraph Train*, 51, 53

⁴² Burton, *The City of the Saints*, 70, 71; Brown, *Telegraph Train*, 58,

discouraging. On July 6, after a night's rest, all three men surveyed the canyons toward the west and southwest to within sight of Court House Rock; but the poles they found were terrible. They were "crooked, knotty and most of them good sized trees—dead, dry and brittle." In spite of this and with a great deal of effort they cut a few of these because, wrote Brown, "we had to have them." On the eighth, Dimmock brought in from Pumpkin Creek (some eight miles southwest of Mud Springs), thirty-two pine poles that were green, "scraggy, crooked, unsightly things," but they too were used after being peeled with drawknives.⁴³

Meanwhile, on July 7 Ed Creighton returned to Julesburg on business. By then the Hazards and the pilgrim-laborers were at Mud Springs; at the end of the next day they were ten miles farther along—at Lawrence Fork—and on their way to Chimney Rock in quest of good poles. At Chimney Rock stagecoach station they unloaded their wagons and camped amid great swarms of mosquitoes.⁴⁴

The past few days had been "excessively hot [with] not a breath of air stirring." In fact, most of the days in July were sunny, but there were a few notable exceptions. On July 11, there was a powerful thunderstorm: "The rain fell in torrents. The wind was high, the flashes of lightning sharp and almost incessant and the thunder deafening;" and there was an encore storm next day. In spite of the discomfort these tempests caused, they did provide the men with a kind of reward—the sunsets were "gorgeous." Though the days continued hot, nights had turned cool and the mosquitoes were less active. Until now, wrote Charles Brown, "none of the men connected with the outfit...had any suffering from sickness."⁴⁵

Back along the trail, construction continued with but few glitches; and these were soon overcome. By July 13, W. B. Hibbard's crew had dug post-holes up to the last crossing of Pole Creek; but the supply of poles did not keep pace. Superintendent Creighton worked feverishly to secure the much-needed poles from eastern suppliers. Matthew Ragan brought poles from Cottonwood Canyons. By July 15 the poles had reached to about four miles north of Lawrence Fork, and a week later, on July 22, installed telegraph wire reached Chimney Rock.⁴⁶

Ed Creighton returned to Mud Springs Station on July 16 to learn that one of his workers—possibly his brother James—had drowned while attempting to cross the Platte River near Fort Laramie. Understandably concerned, he rushed forward to discover the truth of the matter. Two days later he was relieved to find Jim alive and well, camped in the Laramie Peak foothills, south of Horseshoe Station.⁴⁷

⁴³ Brown, *Telegraph Train*, 60, 67.

⁴⁴ *Ibid.*, 54, 59, 60, 63, 73.

⁴⁵ *Ibid.*, 52, 53, 68, 70, 71, 77, 83.

⁴⁶ *Ibid.*, 72, 86.

⁴⁷ *Ibid.*, 77. The man who drowned was named Thomas White. During the summer of 1861 Creighton lost only one other man, a resident of Omaha by the name of Wells, who was "accidently shot."

On the lower slopes of Laramie Peak, Jim Creighton and his men had found excellent telegraph poles and by the first week in August they had cut and peeled more than fifteen hundred poles. When the pilgrim-laborers eventually passed Laramie Peak they were undoubtedly impressed, as were other travelers. Mark Twain, for one, said that the mountain seemed to be right at his elbow, “looming vast and solitary—a deep, dark, rich indigo blue in hue.”⁴⁸

On July 20, Creighton returned eastward “to the several [telegraph] camps near Scott’s Bluff [in order to] push the work that was being prosecuted there.” On the twenty-third the Mormon workers’ camp was located at Turjon’s Ranch (eight miles east of Scott’s Bluffs), but the men were actually working farther east, near Courthouse Rock, cutting cedar and pine poles. Ed Creighton and Charles Brown spent this night and the following day with the pilgrim-laborers, the secretary accompanying the men as they distributed poles, passing Scott’s Bluffs in the process. That night, they were late getting into camp. The next night Brown and his companions stopped “in a slough where there was an abundance of water, such as it was.” Creighton spent the night at nearby Horse Ranch. At noon on Friday, July 26, the Hazard brothers and their men camped “on a slight rise of ground, just above a clear cool running stream of water and about 2 miles from the grove of pine poles [they] were to cut.” Superintendent Creighton again joined the pilgrim-laborers here and they spent that afternoon, all of the next day and part of Sunday, July 28, cutting and peeling poles. “There is no Sunday on the plains,” wrote Secretary Brown.⁴⁹

The Hazard brothers’ crew completed loading their wagons with telegraph poles on July 28 and drove to Horse Creek Station. Here they unloaded four of the wagons, and then moved eastward towards Scott’s Bluffs, dropping poles along the way. Camp that night was seven miles below Scott’s Bluffs Station. The next day the crew started early and distributed timbers “to where the construction party had set poles and strung the wire.” It was late when they arrived at their camp near Turjon’s Ranch. Everyone was “weary and dusty.”⁵⁰

On July 30, Bob Tate and his three wagons from Denver finally joined the telegraph train, and with Charles Brown accompanied the Hazard brothers and their men into the bluffs “west and Southwest of Court House Rock” to “get out poles.” Here they found cedar trees that were “small and scrubby,” and Box Elder trees that were too large, but mostly, they found pitch pine. Late in the afternoon “a severe thunder-storm accompanied with high winds swept over” them. In spite of this, the pilgrim-laborers joined with the other workers in feasting on Mountain Sheep that night—the meat was “juicy and sweet,” according to Brown. “As

⁴⁸ Twain, *Roughing It*, 75.

⁴⁹ Brown, *Telegraph Train*, 33, 71, 80, 86, 87–88, 89, 95.

⁵⁰ *Ibid.*, 89.

this was the first fresh meat we had had, the boys pitched in and did ample justice to the repast." The immigrants spent the last day of July cutting, loading and hauling more poles, before camping "about one mile above Turjon's."⁵¹

The early days of August were "blazing hot...wonderful mirages appeared." On August 1, the Hazard brothers' wagons once more passed Scott's Bluffs and continued westward for about twenty-one miles. Again, it was late when they finally stopped. Both men and animals were exhausted, and one ox died in the night. After such a day, it is no wonder that the pilgrim-laborers got off to a slow start the next morning. Further delay resulted when they paused long enough to replace a telegraph pole that had been destroyed by lightning. Eventually, they passed Horse Creek where they found Ed Creighton.⁵²

On August 4, the immigrant-workers distributed more poles before camping near an Indian burial scaffold. Superintendent Creighton rejoined them here, spent the night, and remained with them all the next day as they continued their work of distribution. Both of the main construction crews—Hibbard's and Hazard's—were now close together. At Beauvois' Ranch, secretary Brown and others did some "trading," but the prices were so high that all they purchased was "wearing apparel and tobacco." Here, Ed Creighton connected a transmitter to the newly erected telegraph line and "sent messages east of a friendly and business nature." Next, with a few others, Ed visited a nearby Cheyenne encampment where, through an interpreter, he told the natives about the work he and his men were doing. Among other things, he said that lightning ran along the wires and that it would be dangerous for the Indians to interfere with the work. To illustrate his point he had the natives form a circle and join hands. Then, with the aid of a battery, he administered an electrical shock that caused the Indians to do much "prancing then and there."⁵³ That afternoon, when telegraph workers strung wire right over the native's tepees, they immediately decamped.

Despite another "short but severe thunder storm," the Hazard brothers' wagons again started east. Eight of them were to return to Julesburg to retrieve wire, insulators, and other items cached there; the remaining wagons returned to Horse Creek to get more poles.⁵⁴ Presumably both of these detachments accomplished their assigned tasks, but we do not know the details, since the Charles Brown journal (our principal source of information), stops here.

On August 10, from a vantage point north of the Platte River and one day after passing Scott's Bluffs, F.W. Blake (the Mormon immigrant who at Omaha had failed to get a job with Creighton), wrote in his journal: "We

⁵¹ Ibid., 90, 91, 93, 94.

⁵² Ibid., 95, 96, 98.

⁵³ Ibid., 98, 99.

⁵⁴ Ibid., 99.

can see Telegraph poles recently erected on the other side of the river.” Three days later he wrote: “got upon the California Road on the south side of the platte, [and passed] a station at which the Pony Express stays for to change or recruit & which has now (through the labour of Mormon Boys who are employed by the government[[]] become a Telegraph Station.”⁵⁵

Between Fort Laramie and Fort Bridger, the telegraph poles and wire were to run through Wyoming’s Black Hills, across the North Platte, up the Sweetwater River, past Rock Creek, and through South Pass; but progress was slow, only three to eight miles a day. By the evening of August 5, the wire had reached only three miles beyond Fort Laramie.⁵⁶ While camped at a telegraph station/store about two days journey west of Fort Laramie, F.W. Blake wrote on August 14: “Some of the Telegraph Boys ~~with~~ came among us, some to pay visits, some to stay.”⁵⁷ The reason some quit their jobs is unknown.

At Fort Laramie, Lewis Hoffris (or Hoffes)—a teamster in the Milo Andrus emigrant train—abandoned his female employer and “hired out to the telegraph line builders.”⁵⁸ Sarah Bethula Palmer Sharp, an immigrant traveling with the Joseph Horne Company, reported seeing telegraph poles lying strewn “along the line for miles.”⁵⁹ Thomas Cott Griggs, also with the Horne train, reported passing “Overland Telegraph construction hands setting up the wires for Utah,” on August 14.⁶⁰ George Teasdale, clerk of the Sixtus E. Johnson Company, passed a telegraph train on August 23 that had camped beside the road near Center Star Station where one of the group’s wagons had broken a wheel. It was probably this same train that passed the emigrants the following day. Then, five days later, four mule-drawn wagons loaded with wire passed on their way to Deer Creek (near modern Glenrock, Wyoming). The following day a telegraph train camped just behind the Johnson Company and “some of the ‘boys’ visited their friends in the evening.”⁶¹

Late in August both the emigrant trains and the pilgrim-laborers encountered U.S. soldiers from Fort Bridger and Camp Floyd (recently renamed Fort Crittenden) rushing eastward towards the Civil War battlefields.⁶² The columns of these “Sons of Mars” included “horse and

⁵⁵ F.W. Blake, Diary, 1861.

⁵⁶ F.W. Blake called Laramie a “City” with “a few wooden houses and a garrison of soldiers, kept here, the United States flag unfurled to the breeze.” See Blake Diary, 1861.

⁵⁷ William Asper, Autobiography, 4/10/1836-1910, [ca. 1988], 30-31, LDS Church Archives.

⁵⁸ William James Frazier McAllister, Autobiographical sketch, LDS Church Archives. Hoffris’ origin, and whether or not he was a pilgrim-laborer remains unknown.

⁵⁹ Sarah Bethula Palmer, Autobiographical sketch, 1931, LDS Church Archives.

⁶⁰ Thomas Cott Griggs, Journals, 1861-1903, LDS Church Archives.

⁶¹ Sixtus E. Johnson Emigrating Company, Journal, 1861, LDS Church Archives.

⁶² The army had abandoned Fort Crittenden on July 27, 1861. See Robert B. Rogers, *Encyclopedia of Historic Forts: The Military, Pioneer, and Trading Posts of the United States*, (New York: Macmillan Publishing Company, 1988), 786.

foot, baggage, cows, guns, etc.”⁶³ According to George Teasdale, the soldiers had “7 or 8 small pieces of brass cannon.”⁶⁴ To F. W. Blake the troops were a “formidable sight...respectably clad, blue [being] the prevailing colour of cloth. They are of various heights quite Common in the American Army. They all look healthy, a good omen to new visitors in Utah. Some jokes were expressed as they passed us...for which they were favoured with some satirical retorts.”⁶⁵ The army’s campfires were clearly visible in the frosty night air.⁶⁶

Each evening now a telegraph operator established a temporary station near the end of the line to receive and send messages. Pony Express riders carried dispatches westward from these transient telegraph offices and back again. By September 11, the station was about ninety miles west of Fort Laramie. As the line reached within two miles of Fort Bridger, the builders ran out of wire. Construction was delayed briefly until Superintendent Creighton could secure wire from the crew that was building eastward from Salt Lake City.⁶⁷

At Fort Bridger, Creighton staged another powerful demonstration of the telegraph for Native Americans. He invited Chief Washakie to the fort and arranged for a Sioux chief to visit the Horseshoe telegraph station just west of Mud Springs. The two men already knew one another well. Via the “Lightning Road,” they asked and answered a series of questions, and then arranged to meet at an intermediate spot to compare notes. After this encounter, both Indians were convinced that the “talking wire” was the voice of the Great Spirit.⁶⁸

Late in August, Superintendent Creighton again visited Salt Lake City where he set up telegraph poles on the east side of Main Street.⁶⁹ From Salt Lake City workers sought to maintain the Superintendent’s projected schedule by extending the line eastward at the rate of fifteen to twenty miles per day. Emigrant Thomas Cott Griggs, who crossed the Weber River on September 9, saw “Telegraph company men raising the poles.”⁷⁰ On September 11 the *Deseret News* reported that poles were “fast being put up, from this [city] eastward.”⁷¹ Eleven days later the line builders were near the

⁶³ Sixtus E. Johnson Emigrating Company, Journal, August 27, 1861; and Homer Duncan [Journal], in Church Emigration Book, LDS Church Archives.

⁶⁴ Sixtus E. Johnson Emigrating Company, Journal, August 27, 1861.

⁶⁵ Blake, Diary, 1861.

⁶⁶ Joseph Horn Company, Journal History, September 13, 1861.

⁶⁷ “From the Deseret News,” in *Our Pioneer Heritage*, 4: 523; P. A. Mullens, *Creighton: Biographical Sketches*, (Omaha: Creighton University, 1901), 17-18; “Edward Creighton,” *The National Cyclopædia of American Biography*, 22: 170.

⁶⁸ *The Telegrapher*, March 1, 1867, cited in Oslin, *The Story of Telecommunications*, 107.

⁶⁹ On August 25, 1861, a Gilbert Clements wrote from Great Salt Lake City to “Dear Mills” saying: “The telegraph poles are erecting both east and west from this city. ... The poles for both lines pass along East Temple Street.” Gilbert Clements to Dear Mills, August 25, 1861, in *The Latter-day Saints Millennial Star*, (October 26, 1861), 695.

⁷⁰ Griggs, Journals, 1861-1903.

⁷¹ *Deseret News*, September 11, 1861.

head of Echo Canyon where that evening “several of the boys from the mountains [who were] engaged in the telegraph operation,” visited the camp of the Sixtus E. Johnson emigrant company. The visitors, wrote George Teasdale, “were almost wearied (I should think), answering the numerous questions of friends the folks in the camp knew that had emigrated [earlier].” That night campfires burned late “as friends were meeting friends and they had ‘lots to say.’”⁷² Men of the westward building Pacific Telegraph Company were not very far away and some of them helped finish the Salt Lake to Fort Bridger connection. Edwin Parker, one of the pilgrim-laborers, said that he followed the telegraph line from Fort Bridger to Salt Lake City, arriving on October 10, 1861.⁷³

In Utah, the pilgrim-laborers soon rejoined their friends and loved ones. Reunited, among others, were Charles and Jane Rogers, James and Harriet Ward, and John and Phoebe Vincent—John seeing his little son for the first time. John Hymas and Mary Ann Pitman were married on November 10, 1861.⁷⁴

On October 14, Ed Creighton and others brought insulators and wires into Salt Lake City and workers stretched the telegraph line into “the store lately occupied by Hooper, Eldridge and Company” at 83 South Main Street. With this, the Omaha to Salt Lake City telegraph was complete, “except for the small connection between Echo Canyon and Ft. Bridger.”⁷⁵ Finally, on October 17, the two segments of the Pacific Telegraph Company wire united at Fort Bridger, Superintendent Edward Creighton personally splicing the two lines.⁷⁶ The “Lightning Road” to Utah was complete.

Citizens who gathered on October 17 expecting to see a telegraph operator work his communication magic were temporarily disappointed. Though the line was finished, “for some reason there was no ‘through’ message sent till the following day.”⁷⁷ Only then did Brigham Young dispatch his felicitations to Jephtha H. Wade, president of the Pacific Telegraph Company in Cleveland, Ohio:

Permit me to congratulate you on the completion of the Overland Telegraph west to Salt Lake City, to commend the energy displayed by yourself and associates in the rapid and successful prosecution of a work so beneficial, and to express the wish that its use may ever tend to promote the true interests of our dwellers upon both the Atlantic and Pacific slopes of our continent. Utah has not seceded, but is firm for the constitution and laws of our country, and is warmly interested in such useful enterprises as the one so far completed.⁷⁸

⁷² Sixtus E. Johnson Company Journal.

⁷³ “History of the Western Union Telegraph Company,” *Our Pioneer Heritage*, 4:518; “Hooper Pioneer’s Funeral Sunday,” *Deseret News* October 19, 1935.

⁷⁴ “History of John Hymas and his wives,” 5.

⁷⁵ Journal History, October 14, 1861, October 23, 1944.

⁷⁶ Mullins, *Creighton*, 18.

⁷⁷ “The Completion of the Telegraph,” *Deseret News* (1861) 11:189.

⁷⁸ Telegram, Brigham Young, Salt Lake City, Utah, to J. H. Wade, Cleveland, Ohio, LDS Church Archives.

According to the *Deseret News*, the “moving celebrities of Main Street then proceeded to send “congratulations over the wire to distant friends” and “the day throughout was ‘quite an occasion.’”⁷⁹ From President Abraham Lincoln to the Honorable Frank Fuller, acting Governor of Utah came the following note on October 20: “The completion of the telegraph to Great Salt Lake City, Utah is auspicious of the stability and union of the republic.”⁸⁰

On October 24, the Overland Telegraph of California (a line just completed between Sacramento and Salt Lake City) linked up with the Pacific Telegraph. Combined, the wires of these two companies completed the United States’ first transcontinental telegraph, a slender connection that helped bind the western states and territories to the then fragile American Union. Mormon pilgrim-laborers had played an important part in its construction—they had come upon the scene at a time when American labor was scarce because of the Civil War and they had partially filled the void. At the same time, they had made it possible for themselves and members of their families to reach their Zion.

⁷⁹ “The Completion of the Telegraph,” *Deseret News* (1861), 11: 189.

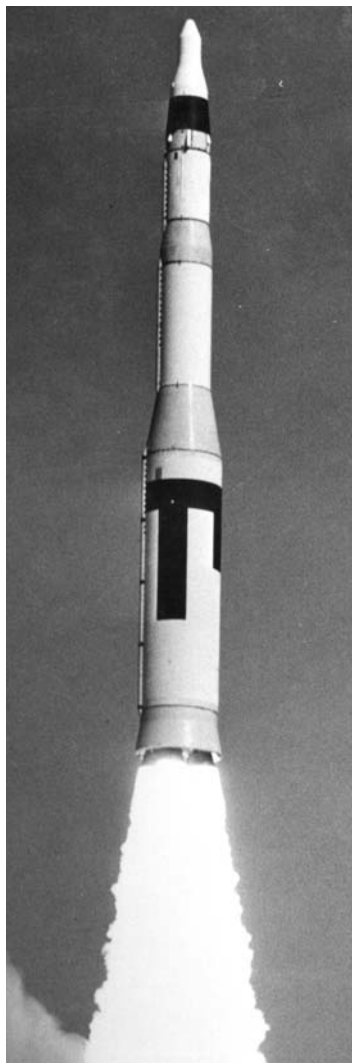
⁸⁰ *Ibid.*

Thiokol in Utah

BY ERIC G. SWEDIN

The Utah economy has regularly benefited from the infusion of federal civilian and military spending throughout the twentieth century. The Cold War (1945-1991) proved to be a boon for the Utah economy, including major spending at Hill Air Force Base, the Tooele Army Depot, and smaller military installations like Defense Depot Ogden. Commercial companies also thrived on federal contracts. One of the largest private defense contractors in Utah arrived in 1956, when Thiokol Chemical Corporation made the decision to build a solid-fuel rocket development and production facility in the arid lands west of Brigham City.

Thiokol began in a small laboratory in Kansas City, Missouri, where in 1926 Joseph Cecil Patrick, a medical doctor turned chemist, discovered a way to create a synthetic rubber while seeking to create antifreeze (ethylene glycol) by mixing the petroleum byproducts ethylene dichloride and sodium polysulphide.¹ Bevis Longstreth, a local businessman, became interested in the new discovery and the two men found financial backing to form the Thiocol License Company in 1928. The name came from combining the Greek words for sulfur (theion) and glue (kolla). In 1930 the company changed its name to Thiokol Chemical, moved to New Jersey, and became the first company in the United States to produce synthetic rubber commercially for use in gaskets, sealants, lubricants, coatings, and adhesives.² Even with improved sales



A Minuteman missile in flight.

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¹ Louis M. Sherman, "Our Utah Operations," in *Proceedings of the Seventh Annual State Economic Development Conference* (August 29, 1956), 37-41. Available at the Utah State Historical Society Library.

² E. S. Sutton, *AIAA 99-2929: From Polymers to Rockets - A History of Thiokol* (35th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit June 20-24, 1999, Los Angeles, California), no pagination. AIAA is the American Institute of Aeronautics and Astronautics. Copy available at http://www.atk.com/thiokol/assets/documents/history/aiaa_99_2929.pdf.

during World War II, the company remained small, posting total sales of \$1.2 million and not quite \$12,000 in profits in 1944.

The year 1945 marked a turning point in Thiokol's history. Scientists and engineers at the Guggenheim Aeronautical Laboratory at the California Institute of Technology, later renamed the Jet Propulsion Laboratory (JPL), had developed a jet-assisted takeoff rocket (JATO) during World War II by using packed asphalt as the solid fuel. The JATO was used to shorten the distance required for takeoff by large aircraft on runways. In 1945, an engineer substituted Thiokol's rubber-like polysulfide for the solid fuel and found that it burned much better than asphalt and did not give off the black smoke of asphalt.

Although JPL later decided to use liquid-fueled instead of solid-fueled rockets, Thiokol management saw a viable market for the company in providing solid fuel to other customers.³

At the time, Aerojet and Hercules were the only companies in the solid-fuel rocket field, and they were not interested in Thiokol's polysulfide. In 1947, the United States Army provided \$150,000 as seed money for Thiokol to get started in the solid-fuel rocket business. The military liked solid-fuel rockets because they were inert and could be stored for a longer time.⁴ Thiokol leased a former World War II ordnance plant in Elkton, Maryland, but had just begun to move into their new plant when the army asked the company to relocate to the Redstone Arsenal in Huntsville, Alabama.

In 1949, Thiokol recruited Harold W. Ritchey as technical director of a new division, Thiokol Rocket Operations. Ritchey was highly qualified with a doctorate in physical chemistry earned at Purdue University in 1938. He spent five years in the U. S. Navy during World War II, where he earned a master's degree in chemical engineering at Cornell University while working on the development of jet propulsion.⁵

Although Thiokol researchers at Huntsville usually worked on smaller rocket motors, their most impressive achievement came with the successful test of the Hermes RVA-10 in 1951, a solid-fuel rocket motor with more than five thousand pounds of propellant in it. Solid rocket motors are made by mixing chemicals into a paste, pouring it into a mold, and allowing it to harden. The mixture will remain viable for years until ignition. Solid rocket propellant is mixed in large bowls, like something out of a giant's kitchen, and early Thiokol rocket projects actually used commercial kitchen appliances as mixers. The RVA-10 was the first solid rocket to routinely use multiple mixes for a single rocket motor.⁶

³ Ibid., and Clayton R. Koppes, *JPL and The American Space Program: A History of the Jet Propulsion Laboratory* (New Haven: Yale University Press, 1982), 36-38.

⁴ J. W. Wiggins, "A Review of Solid Propellant Technology and Thiokol's Role in Its Development," in Thiokol Chemical Corporation, *Technical Paper Yearbook 1970* (Thiokol Chemical, 1970), 307-18.

⁵ Thiokol Chemical, *Commemorating Thiokol Rocket Operations Center Ground Breaking, Ogden, Utah, October 20, 1960*, (Thiokol Chemical, 1960). Pamphlet, Utah State Historical Society.

⁶ Joseph W. Wiggins, "The Earliest Large Solid Rocket Motor - The Hermes," in *Thiokol Chemical Corporation, Technical Paper Yearbook 1972* (Thiokol Chemical, 1972), 337-425.

The United States Air Force, newly founded in 1947 and keen to carve out its fair share of national security duties, became interested in the solid-fuel rocket motor work of Thiokol and asked Thiokol management to reopen their Elkton, Maryland, site for air force research, since the Redstone Arsenal was an army facility. The navy also awarded contracts to the Elkton facility, though by 1953, only twenty people worked in Elkton, in contrast to the approximately four hundred Thiokol employees working for the army at Huntsville. In 1952, Thiokol also took over the Longhorn Ordnance Works in Marshall, Texas, on behalf of the army to manufacture solid-fuel tactical rockets.

By the mid-1950s, development of intercontinental ballistic missiles (ICBMs) was well under way in both the United States and the Soviet Union as both nations sought to base missiles in their respective countries that could reach across oceans. As the missile race emerged, the American public came to fear that both a “bomber gap” and a “missile gap” had developed, with the Soviets pulling ahead in both the development and deployment of more bombers and missiles than the United States. The Eisenhower administration could not quell these fears, even though it knew that such gaps did not exist, because its knowledge of the true state of Soviet progress was based on secret over flights of the Soviet Union by American spy planes such as the famed U-2.⁷

Lacking the ability to conduct their own overflights of the United States, the Soviets used other means to keep track of American developments. After the fall of the Soviet Union, Oleg Kalugin, a former Soviet intelligence officer, wrote in his memoirs that he had been contacted in 1959 by a Thiokol engineer based in New Jersey, who offered plans for Thiokol solid-fuel rocket motors and even a sample of the solid fuel. Kalugin eagerly accepted the offered intelligence and the Thiokol engineer was never caught.⁸

In 1955, the air force started the Minuteman program, designed to quickly deploy one hundred solid-fuel ICBMs by 1964 and another four hundred the following year. Minuteman missiles could be launched within a minute of notification, unlike the hours that it took liquid-fueled missiles to be fueled before launch.⁹ Thiokol management saw a new opportunity for a substantial air force contract to build large solid-fuel rocket motors. Their Elkton location was too small and the Redstone Arsenal was still controlled by the army, so they decided to build a new plant. In an early 1956 board meeting, a proposal to raise two million dollars to build a new plant was approved, even though the total sales for the previous year were

⁷ See Norman Friedman, *The Fifty-Year War: Conflict and Strategy in the Cold War* (Annapolis, MD: Naval Institute Press, 2000).

⁸ Oleg Kalugin with Fen Montaigne, *The First Directorate: My 32 Years in Intelligence and Espionage Against the West* (New York: St. Martin's Press, 1994), 1–4.

⁹ Jacob Neufeld, *Ballistic Missiles in the United States Air Force 1945-1960* (Washington, D.C.: Office of Air Force History, 1990), 227–30.

only \$21,053,000, and Thiokol did not have any contracts to build large solid-fuel rocket motors. Having decided on such a large financial gamble, Thiokol management now had to find a location for the new plant.

Louis M. Sherman was hired in February 1956 as Director of Market Development, and immediately given the task of finding a location for the new plant. Sherman had considerable international experience on three continents finding locations for industrial plants and had most recently been employed by an American-owned chemical firm in Brazil. He consulted with rocket engineers at Elkton and Huntsville to clarify the requirements before setting to work.¹⁰

The Cold War, geographical considerations, and environmental concerns were all factors in the selection of a location. The plant had to be at least twenty-five miles from an existing military or Atomic Energy Commission installation, five hundred miles from the ocean where submarine missiles might be launched against the plant, at least five hundred miles south of the U.S. Canadian border to avoid the difficulties of harsh winter weather, away from the highly industrialized eastern part of the country, in an area of little or no use to anyone, and, preferably within a natural basin between mountains. As Sherman concentrated his search in the western United States, the advantage of proximity to the aircraft companies in California and Washington became clear.¹¹

The area near Salt Lake City particularly interested Sherman because raw materials were close at hand from the Intermountain West, the labor market was advantageous, and railroad transportation was available. Utah already had a presence in the solid-fuel rocket market. Hercules, a major competitor to Thiokol, already owned its major plant, the Bacchus Works, in Magna outside of Salt Lake City. Originally a dynamite plant built in 1913, the Bacchus Works transformed itself into an important solid-fuel rocket manufacturer in the 1950s.¹²

On March 13, 1956, Sherman contacted W. C. Palfreyman, an employee of the Utah Department of Employment Security and Director of the Utah Committee on Industrial and Employment Planning. Palfreyman met with Sherman the next day and the Thiokol manager explained that he wanted, "a minimum of twenty-five hundred acres of rough, cheap, unproductive land . . . serviced by good transportation facilities of rail, highway, and air . . . [and] he did not want close neighbors due to the explosive nature of their business, but he still required a good labor force of 300 to 500 workers."¹³

Several days later, Palfreyman and Sherman toured possible plant sites that Palfreyman had selected. Claude Summerhays at Upland Industries, a

¹⁰ Sherman, "Our Utah Operations," 38-39; and W. C. Palfreyman, "Some Recollections About Locating Thiokol Chemical Corporation in Utah," 2. Manuscript, Utah State Historical Society Library.

¹¹ Sherman, "Our Utah Operations," 39.

¹² Davis Dyer and David B. Sicilia, *Labors of a Modern Hercules: The Evolution of a Chemical Company* (Boston: Harvard Business School Press, 1990), 6.

¹³ Palfreyman, "Recollections About Thiokol," 1, 3.

real estate arm of Union Pacific Railroad, had recommended to Palfreyman that Thiokol consider the Browning Ranch west of Brigham City. Besides the Browning Ranch, the two men visited Paradise, Cove, and Newton in Cache County then traveled south to Juab County to look at a site in Dog Valley, west of Nephi, and another site west of Mona Reservoir also near Nephi. They also considered a site east of the Point of the Mountain between Alpine and Draper. Sherman also considered sites in other states, including Idaho. When Sherman named the Browning Ranch as his choice, the Thiokol board agreed on the Utah location.¹⁴

Parley Holmgren and Ed Holmgren owned the Browning Ranch, and agreed to sell approximately seven thousand acres of hilly, sagebrush land to Thiokol for just under three dollars an acre, with the unusual provision that the two ranchers retain grazing rights for their sheep and cattle on all the land except for the square mile around the planned administration and production areas. Thiokol agreed to build a fence to keep livestock out of their plant. In addition to the Browning Ranch, Thiokol purchased approximately thirty-five hundred acres of adjoining land from Christensen Brothers, giving the rocket company a total of 10,734 acres for their Utah operations.

During the summer of 1956, Thiokol began to dig wells and develop the springs on the property to obtain the water needed for drinking, sanitation, and industrial processes. Thiokol organized a new internal division, the Wasatch Division, to run the new plant.¹⁵

The arrival of Thiokol completely changed the economies of northern Utah and southern Idaho, especially Box Elder County. One Thiokol manager estimated that Thiokol, during the first ten years of the plant's operation, pumped an average of three million dollars a month into the local economy.¹⁶ Compared to how such industrial plants are often attracted to a



An abandoned farm house near Thiokol Chemical Corporation's Wasatch Division research and development plant.

¹⁴ Ibid., 4.

¹⁵ Ibid., 5; Sherman, "Our Utah Operations," 40-41.

¹⁶ James M. Stone, untitled manuscript on the first ten years of Thiokol in Utah (1968), Special Collections, Merrill-Cazier Library, Utah State University.

location today, the state of Utah did not offer any financial inducements to encourage Thiokol to build a plant in Utah.¹⁷

In late 1956, construction of fifteen administration and research buildings began. A small concrete plant was built at the site to provide the concrete for the buildings and test bays.¹⁸ The new administration buildings were located across the road from an old railroad facility, Lampo Junction, built to serve the railroad that formed the original transcontinental railroad completed in 1869 at nearby Promontory Summit. The first buildings were completed in February 1957, and a grand opening was held on October 17, 1957. Brief editorials in the *Ogden Standard-Examiner* and *Salt Lake Tribune* took notice of Thiokol's grand opening, recognizing that the new plant was an important new element in America's defense strategy, and that the new plant would make a major economic impact to Utah in payroll, taxes, and supply purchases.¹⁹

In 1957, Thiokol's gamble to build a new plant began to pay off. The air force awarded contracts to Thiokol, Hercules, and Aerojet to develop the three stages of the Minuteman missile. In February 1958, the new Thiokol plant successfully tested the TU-110 rocket motor, 63 inches in diameter, which contained 22,000 pounds of solid fuel, four times larger than the RVA-10. The air force then awarded Thiokol the contract to develop and build the first Minuteman stage motor, the largest of the three stages. That same year the Thiokol rocket motor was tested in a silo to determine if the Minuteman could be placed in silos within the ground. The test was successful, which meant that enough Minuteman missiles, protected by their silos, could survive a first strike by Soviet nuclear-tipped missiles to retaliate in conformance with the doctrine of mutual assured destruction. The first Minuteman, with all three stages, flew on February 1, 1961, a year ahead of a very aggressive development schedule. Thiokol's Promontory plant built 1,626 first stage motors by 1966 and eventually delivered nearly 3,000 motors for the Minuteman I, II, and III missiles.²⁰ Many of these motors were used for testing, but eventually over a thousand Minuteman missiles were deployed in silos, waiting for a nuclear war that never came. Today, after the post-Cold War nuclear weapons reduction, five hundred Minuteman III are still in their silos in Montana, Wyoming, and North Dakota.

After Thiokol obtained a contract to build the first stage of the Minuteman ICBM, the Utah facility expanded from the fifteen buildings at Promontory, employing a few hundred people, to include more than one hundred major buildings with 3,500 employees by 1960. In 1962, the Wasatch Division reached 6,200 employees, though that number declined

¹⁷ Palfreyman, "Recollections About Thiokol," 7.

¹⁸ *Ibid.*, 5, and Sutton, "A History of Thiokol."

¹⁹ *Salt Lake Tribune*, October 18, 1957.

²⁰ See Sutton, "A History of Thiokol."



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to 1,700 employees in 1968.²¹ Thiokol hired many of its employees from among the local population, training them as needed, but many engineers and scientists had to be brought in from out of state. A Thiokol brochure to attract new employees lauded the hunting, fishing, boating, and skiing available, as well as local educational opportunities and cultural institutions such as the Utah Symphony.²² Recruiting and retaining employees from outside Utah was often a problem for Thiokol, because of the isolation of the Promontory plant, especially when national labor markets for technical professionals were tight.

The influx of new people from out of state changed the character of Box Elder County. A new high school was built, as were more elementary schools and another junior high school. The population of Box Elder County, heavily Latter-day Saint, diversified as Thiokol employees and others helped found new Baptist, evangelical Protestant, and Lutheran congregations, as well as the Aldersgate United Methodist Church and St Michael's Episcopal Church.²³ The local lawyer who contracted with

***Governor George D. Clyde,
second from right, with military
and Thiokol officials.***

²¹ Stone, "Manuscript," 4, 2.

²² Thiokol, *Thiokol Chemical Corporation: An invitation to see for yourself* (n.d.), pamphlet. Utah State Historical Society Library.

²³ Frederick M. Huchel, *A History of Box Elder County* (Salt Lake City: Box Elder County Commission and Utah State Historical Society, 1999), 172-74, 183-84, 209.



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Thiokol to arrange their land purchases and acquire water rights recalled some concerns that the newcomers brought with them and how the established community responded to them.

We found that a lot of these people that came in were non-Mormons and they were a little fearful of coming into a Mormon community. We just bent over backwards to do anything that we could to do away with that thing. We tried to be friendly, overfriendly, if possible, to make them feel at home here. Then we had a number of people trying to convert them, and they resented it sometimes because they felt that they were already converted. They didn't want their lives interfered with.²⁴

To actually build the Minuteman rocket motors, the air force contracted for Thiokol to buy an additional 2,880 acres and transfer 1,500 of those acres to the air force. Its contract required Thiokol to build the production facilities on the air force land, which became known as Air Force Plant 78. Dedicated in 1962, the plant included the first automated batch mixing system for making rocket propellant.²⁵ Thiokol operated this plant on behalf of the air force until eventually buying the plant from the air force. Other acquisitions brought the total Thiokol plant to approximately twenty-two thousand acres in size. In addition to the buildings, numerous bunkers holding rocket motors, explosives, and chemicals were built throughout the property. While much of the land remained unused, other than for grazing, the excess land was useful as a buffer for Thiokol's testing programs. There were also archaeological sites on the land, including petroglyphs, which because of Thiokol's security requirements, were protected from the public.²⁶

The rocket business and missile race had been a boon for Thiokol. The

²⁴ Walter G. Mann oral history interview July 20, 1989, MS 8, p. 14, Brigham City Library.

²⁵ Stone, "Manuscript," 4.

²⁶ Thiokol, *Air Force Plant No. 78: Facilities and Process Outline* (undated), available at the Utah State Historical Society.

period from 1948 to 1958 saw the company's annual sales grow from \$1,139,662 to \$88,993,121, and profits increased from \$52,371 in 1948 to \$3,007,699 in 1958. Sales doubled the following year to just over \$190 million.²⁷ By 1960, Thiokol was involved in the development or production of a host of solid-fuel rockets, including air-to-air missiles, anti-aircraft missiles, anti-submarine missiles, and tactical missiles.²⁸ By 1972, as measured by total production of solid propellant, Thiokol had become the leading supplier of solid rocket motors in the United States; and probably the world, since the Soviet Union continued to rely on liquid-fueled ICBMs.²⁹

While Thiokol had made most of its money from military-related projects, the thrill of space exploration motivated many early rocket pioneers. These pioneers often saw working on military rocket projects as a way to advance the technology to achieve what they truly wanted. Wernher Von Braun, a famous rocket scientist in Germany during World War II then for the U. S. Army, concentrated his talents and knowledge on the goal of placing satellites into orbit, then a man in orbit, and eventually landing a man on the moon. Von Braun also wanted to build permanently manned orbiting space stations and send manned expeditions to explore other planets of the solar system. Thiokol's Ritchey also entertained similar ambitions, writing with James T. Grey Jr. in 1971 that the space program was "propitiously conceived, skillfully executed, and necessary for man's survival."³⁰

The launch of the first artificial satellite in 1957, the Soviet Sputnik, began the space race and opened another opportunity for Thiokol. In response, Congress created the National Aeronautics and Space Administration (NASA) in 1958 and assigned all civilian space projects to the new agency. While NASA used mostly liquid-fuel rockets for its manned and unmanned programs, the need quickly emerged for small solid-fuel rockets to boost satellites from lower orbits to higher orbits around the earth. The Thiokol Star rocket motors, developed at Elkton, met this need and have been a constant feature in the American space program for over four decades. The Thiokol Castor series of solid-fuel motors were

²⁷ Part of this growth came from the acquisition in the spring of 1958 of Reaction Motors, Inc. (RMI), a New Jersey-based pioneer in liquid-fuel rockets. RMI became the Reaction Motors Division (RMD) of Thiokol and its business gradually declined until in 1970, when Thiokol chose to close down the division and get out of the liquid-fuel rocket business. See Frederick I. Ordway and Frank H. Winter, "Pioneering Commercial Rocketry in the United States of America, Reaction Motors, Inc. 1941-1958, Part 1: Corporate History," *Journal of the British Interplanetary Society* 36 (1983): 542-52; Frank H. Winter and Frederick I. Ordway, III, "Pioneering Commercial Rocketry in the United States of America, Reaction Motors, Inc. 1941-1958, Part 2: Projects," *Journal of the British Interplanetary Society* 38 (1985): 155-68; Frederick I. Ordway, III, "Pioneering Commercial Rocketry in the United States of America: Thiokol's Reaction Motors Division, 1958-1972, Part 3: RMD Operational History," *Journal of the British Interplanetary Society* 40 (1987): 389-404.

²⁸ Thiokol, *Ground Breaking* brochure.

²⁹ Sutton, "A History of Thiokol."

³⁰ James T. Grey, Jr. and Harold W. Ritchey, "Will Space Exploration Help Man Survive," 84, in Thiokol Chemical Corporation, *Technical Paper Yearbook 1971* (Thiokol Chemical, 1971), 77-84. See also Dennis Piskiewicz, *Wernher Von Braun: The Man Who Sold the Moon* (Westport, CT: Praeger, 1998).

developed in 1959 as strap-on boosters for larger rockets, to give them a little extra boost, and are still being used.

In 1963, the air force and NASA asked Thiokol to develop two new solid-fuel motors, with diameters of 156 inches and 260 inches. The 156-inch motor was designed at the Wasatch Division, because that size of motor could be produced in Utah and transported by rail. The 156-inch motor was the maximum size that could be loaded on a railway car and pass through bridges, tunnels, and other such confined spaces.³¹

Since the 260-inch motor was too wide to be transported by rail, Thiokol built a new plant in Georgia, where sea transport could take the motors to Cape Canaveral in Florida. In December 1964, Wasatch successfully tested their motor. A year later the 260-inch motor failed during a hydro test, where water pressure is applied to a case to see if it can take the expected pressure. The engineers determined that with the inspection techniques current at that time, they would not be able to detect the flaws in the metal or case welds to guarantee that the large motor would not fail. The Georgia plant was mothballed.³²

In 1973, Thiokol received a contract to develop and produce 146-inch wide solid rocket motors (SRMs) for the space shuttle. NASA had never used solid rocket motors for manned space flight because NASA engineers did not like the fact that solid rocket motors could not be turned off once you ignited them. Because the space shuttle was so heavy though, and the desire to make as many parts as possible reusable, NASA engineers decided on the two large strap-on SRMs. Many NASA engineers wanted to develop another liquid-fueled booster instead of using the SRMs, but the SRMs were thought to be cheaper to develop. Thiokol adapted their 156-inch motor, which had not been used for any other purpose, to design of the shuttle SRM, and successfully tested the first model in July 1977 at Promontory. Each SRM was over 126 feet long, and split into four segments for rail transport. The SRM cases were dropped back into the ocean by parachute after launch and retrieved by a ship, to be shipped back to Utah to be refurbished and reused. Each SRM carried 1,107,000 pounds of propellant. The space shuttle booster contract increased the number of employees in the Wasatch Division to more than six thousand. Eventually the Wasatch Division grew to include facilities at other Utah locations in Clearfield, Brigham City, and Ogden.³³

The first space shuttle launched in 1981 was a marvel of engineering. Every component was carefully designed and repeatedly tested, but the first true test of the entire system required that it actually work with two astronauts in the shuttle, blasting off into space. More shuttle flights followed,

³¹ H. W. Ritchey, "156 Diameter Solid Propellant Rocket Motor: Past, Present, and Future," in Thiokol Chemical Corporation, *Technical Paper Yearbook 1969* (Thiokol Chemical, 1969), 453.

³² Sutton, "A History of Thiokol."

³³ Ibid.



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though the number of flights per year never met the original design goals, and the hoped for reduced costs through reused components were not realized. Nevertheless, the space shuttle epitomized American technology in the 1980s, just as the Apollo Project to land a man on the moon had demonstrated American technological know-how for the previous generation of Americans. The explosion of the space shuttle *Challenger* and the death of seven astronauts on January 28, 1986, the twenty-fifth space shuttle mission, traumatized a nation and especially traumatized Thiokol when it quickly became apparent that a flaw in an SRM had caused the accident.

Thiokol workers mix solid propellant in a 300 gallon mixer for the first-stage engine of the Minuteman missile.

Thiokol engineers had warned that the rubber O-ring seal between the segments of the SRM boosters was not safe after being exposed to freezing weather. Management of Thiokol and NASA, over the objection of the engineers, decided to let *Challenger* fly. Just over a minute after liftoff, a jet of hot solid-fuel propellant burned through an O-ring and into the external fuel tank, causing the explosion.³⁴

Thiokol implemented a crash program to redesign the SRM without O-ring seals. Two years later, on September 28, 1988, the space shuttle began flying again with the Redesigned Solid Rocket Motor (RSRM), later renamed the Reusable Solid Rocket Motor. The loss of the space shuttle *Columbia* in 2003 did not involve any Thiokol components.³⁵

³⁴ David M. Harland, *The Story of the Space Shuttle* (Chichester, UK: Praxis Publishing, 2004), 47–49.

³⁵ The writer of this article later worked at Thiokol and often heard stories of how bad morale was among employees during that time at Thiokol. A decade later, in the late 1990s, television sets in the Thiokol cafeteria were used to show the live launch of every space shuttle mission. I observed that Thiokol employees always watched the shuttle launch quietly until the RSRM boosters successfully separated and fell back to earth, and then everyone clapped enthusiastically.

Although its space shuttle activities gained the most public attention, Thiokol remained active in the ballistic missile arena, providing first stage rocket motors for the submarine-launched Poseidon and its successor, the Trident II. Thiokol also provided the first stages for the Peacekeeper ICBM (originally known as the "MX" missile), intended as a successor to the Minuteman missiles. Other solid-fuel missiles, such as the High-Speed Antiradar Missile and anti-missile Patriot, also followed. Thiokol also branched out into the development and manufacture of illuminating flares, smoke-generating chemicals, ammunition, and explosives—all consistent with their emphasis on energetic chemical reactions. Thiokol also diversified into ranching, household chemicals, and even manufacturing sno-cats.

Earlier, in 1953, the first patent for a "safety cushion assembly for automotive vehicles," was issued. Other inventors also created early air bags, all of which relied on tanks of compressed air to rapidly inflate the air bag when a collision occurred. In 1968, researchers at Thiokol looked into doing away with the tanks of gas by developing a chemical, similar to the solid fuel in rocket motors that would react quickly enough to inflate an air bag in a fraction of a second. Thiokol eventually succeeded with their invention, creating an air bag that was smaller and weighed less than earlier air bag systems and began to manufacture them in Utah. The air bag industry became important in the 1980s as the federal government required automobile manufacturers to adopt this new technology.³⁶

With the rise of environmental consciousness, some people became concerned about the impact on the environment of Thiokol's manufacturing processes and testing program at their Promontory plant. Static testing was of particular concern, where rocket motors were strapped down on their sides and ignited, blasting into the side of a hill. Thiokol's answer to these concerns in 1992 read: "There have been no changes of any kind due to rocket testing detected in the wetlands, agricultural lands, forests, wildlife, or soils near the Thiokol static test facility."³⁷ Testing and manufacturing activities have regularly put Thiokol on lists of the top polluters in Utah for such chemicals as hydrochloric acid and trichloroethane.

In 2001, a Utah jury awarded eight million dollars in damages (three million dollars in compensatory damages and five million dollars in punitive damages) to Connor Cattle Company, the successor to the Browning Ranch. Connor owned the grazing rights to acreage on Thiokol's plant and claimed that open air burning of industrial wastes from the manufacture of air bags had poisoned the soil with molybdenum and caused cattle to get sick and die. Thiokol and Connor later settled the suit for an undisclosed amount.³⁸

³⁶ Don Sherman, "The Rough Road to Air Bags," *American Heritage of Invention & Technology* 11:1 (Summer 1995): 48-56.

³⁷ Thiokol Corporation, "Chemical Rocket Propulsion and the Environment," (Thiokol Corporation, 1992), 28. Special Collections, Merrill-Cazier Library, Utah State University.

³⁸ Elizabeth Neff, "Talk of the Morning, Victory in State Farm Case Could Cost Plaintiff Dearly," *Salt Lake Tribune*, August 13, 2003.

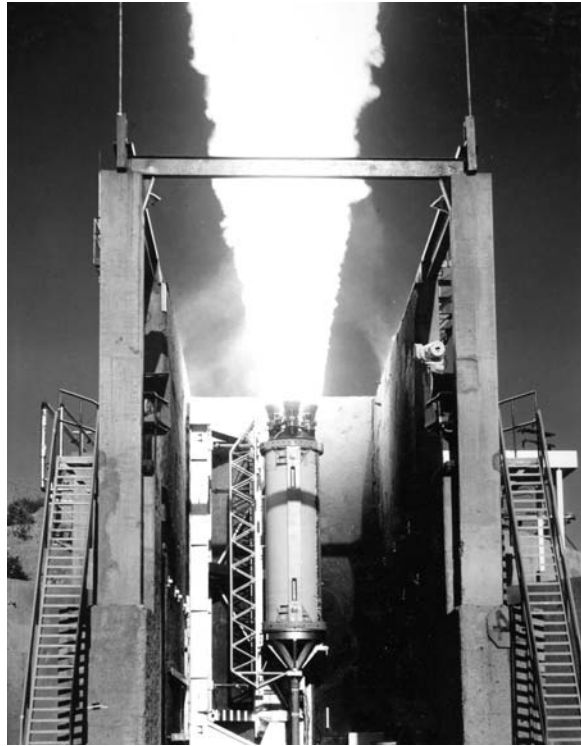
In 1982, Thiokol Corporation (the company had dropped the Thiokol Chemical Corporation name a decade earlier) merged with the Morton Salt Company of Chicago, Illinois. The new company became Morton Thiokol, Inc. Morton management later decided to spin off the rocket business into a separate company, and Thiokol was reborn in 1989. Morton chose to keep the specialty chemical and air bag businesses that they acquired from the earlier incarnation of Thiokol and pushed a large amount of their accumulated debt onto the new company.

Morton-owned research facilities and some production facilities for the air bag business actually remained on a separately owned piece of property at the Promontory plant, completely surrounded by Thiokol property.

Morton successfully grew the air bag business into a large concern with about \$269 million in revenue in 1994, and later sold their air bag business to the Swedish firm Autoliv.

The revived Thiokol Corporation located its headquarters in downtown Ogden. The end of the Cold War in 1991 and the drying up of defense dollars was particularly hard on Thiokol and numerous layoffs followed. By the mid-1990s, the total number of employees in Thiokol, most located in Utah, had dropped from more than twelve thousand to less than four thousand. After paying down company debt, management chose to grow the business by purchasing other firms, such as the fastener company Huck Manufacturing in 1991. Thiokol also acquired interests in two other smaller fastener companies. In 1995, Thiokol began the process to acquire Howmet Corporation, which used casting to create components for high-temperature and high-pressure applications like jet engines and gas turbines. The Howmet acquisition more than doubled the annual revenue of the company to over two billion dollars a year.

In 1998, to emphasize that it was more than a rocket company, Thiokol renamed itself Cordant Technologies and moved the corporate headquarters



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Test firing the Minuteman first-stage engine at the Thiokol facility.



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to downtown Salt Lake City. The Thiokol name lived on as a division, Thiokol Propulsion. In year 2000, Alcoa purchased Cordant Technologies for approximately \$2.9 billion, plus the assumption of \$685 million in debt. Alcoa's core business was aluminum products and because Alcoa management apparently only wanted the Howmet casting business, Alcoa sold the rocket business and its assets to Alliant Techsystems (ATK) in 2001.

Alliant Techsystems, headquartered in Edina, Minnesota, already had a presence in Utah, having earlier bought Hercules Aerospace in 1995. With the Thiokol acquisition, ATK became the dominant supplier of solid-fuel rocket motors. The Thiokol name, because it was so well known in the industry, was retained for a time as the name of a business group, ATK Thiokol.³⁹ On March 13, 2006, ATK announced that ATK Thiokol would be renamed ATK Launch Systems Group, and the Thiokol name disappeared.

Long-time employees of Thiokol viewed the mergers with other companies, beginning with the Morton takeover, as a negative development for

The TRACKMASTER snow machine developed by Utah Scientific Research Foundation and manufactured and marketed by Thiokol Chemical Corporation.

³⁹ For an unusual study of Thiokol in Utah, including supposed Mormon conspiracies, see Anson Shupe, *The Darker Side of Virtue: Corruption, Scandal and the Mormon Empire* (Buffalo, NY: Prometheus Books, 1991).

them. They complained of reduced employee benefits, a slower pace of pay raises, and a sense of a company driven by “bean counters” instead of technological entrepreneurship. Of course, these complaints reflect general trends within the aerospace industry as the industry consolidated first in the aftermath of the Apollo Project and then later after the end of the Cold War. American businesses also had to adapt to increased international competition.⁴⁰

Many of the proposals put forward by NASA and other interested parties in the 1990s sought to eliminate the use of solid rocket motors in any launcher that replaced the space shuttle. Projects such as the 1990s effort by NASA to build the X-37 Orbital Space Plane strived to implement this vision, but failed. Thiokol campaigned for their solid-fuel rocket boosters to be used. On September 19, 2005, NASA announced a thirteen-year plan, to cost \$104 billion, to return Americans to the moon. The plan proposed using already existing shuttle technology and contractors, including Thiokol’s solid rocket boosters, to create new launch craft. The management of ATK Thiokol celebrated with an advertisement in the *Wall Street Journal*. Employees at Thiokol breathed a sigh of relief, finding hope that the jobs that they depended on would remain and Thiokol’s story in Utah would continue.

⁴⁰ Personal conversations with Thiokol employees by the author during the years from 1996 to 1999 and from 2003 to 2005.



In Memoriam
EVERETT L. COOLEY
1917-2006

Utah has had many talented historians presenting the history of the Territory and State of Utah. Dr. Everett (Ev) L. Cooley stood out as the most deserving of the title “Mr. Utah History.” As the *Salt Lake Tribune* noted, “Everett Cooley lived Utah history. He relished accounts of the pioneer treks, the establishment of the territory and the push toward statehood. And he loved the land itself.” During his long career as a professor, historian, and archivist for a variety of state agencies and universities, he developed an impressive legacy. He mentored many fellow historians and archivists at the Utah State Archives, the Utah State Historical Society, the Utah Heritage Foundation, and the University of Utah. Dr. Cooley was either the originator or the guiding light in establishing or developing these organizations.

When Cooley died on July 2, 2006, his long and distinguished career came to an end. He was born in 1917 in West Jordan, Utah, and entered

the University of Utah in 1936, during the heart of the Great Depression. Two years later, he interrupted his education to serve a German/Canadian mission for The Church of Jesus Christ of Latter-day Saints. Ev returned to the University and completed his bachelor of arts degree in history. In 1943, he enlisted in the United States Navy and served in the Pacific Theater for the next three years. After the war, he completed a master's degree at the University of Utah and a Ph.D. in history at the University of California, Berkeley. In 1954, Cooley was selected as the first Utah State Archivist, a position he held for six years. During his tenure, he established a formal archive and records management program and worked to bring together, in one area, a wide variety of state records.

After teaching history for one year at Utah State University, Ev was appointed in 1961 by Governor George D. Clyde as the director of the Utah State Historical Society. During Cooley's administration, he transformed the Society into one of the best programs in America. He was responsible for acquiring, editing, and publishing articles for the *Utah Historical Quarterly*. He enlarged the format of the *Quarterly* and expanded the single subject issue approach with topical publications on Utah's mineral and cattle industry; the hundredth anniversary of the completion of the transcontinental railroad; and the centennial of John Wesley Powell's expedition to the West. He encouraged both scholarly and broad-based articles and expanded the Society's library holdings through the solicitation of manuscripts and acquisition of Utah-related monographs and serials. He also edited and published individual books such as *On the Mormon Frontier: The Diary of Hosea Stout: 1844-1861*.

Significantly, Everett Cooley also expanded the annual meeting and dinner program and created awards to recognize superb teaching and authorship. He established an editorial board which raised the Society's level of professional, historical, archival, and publishing standards. He originated summer workshops for educators. Ev worked tirelessly to expand and invigorate local history chapters and he introduced the Society's first Statehood Day Celebration on January 4, 1963. Cooley initiated and chaired a committee to establish the Utah Heritage Foundation in 1966. The Heritage Foundation established its office within the Society's Kearns mansion with the support of Utah's First Lady, Lucybeth Rampton. The Foundation and its board of trustees focused their attention on the recognition and preservation of Utah's historic buildings. Cooley served as the Foundation's president and member of the board of trustees from 1969 to 1974.

In 1969, Dr. Cooley left the Utah State Historical Society for the University of Utah to become a member of the library and history faculties. Ralph Thomson, who was the Director of the University of Utah Library, wanted to reorganize and combine the library's rare and specialized holdings into a cohesive unit. Cooley brought the same enthusiasm and professional standards to the university as he had to the State Archives and Utah State Historical Society. From 1969 through 1983, Ev directed these

divisions and developed the University's manuscript and Western Americana units, initiated a new University Records Management and Archives Division and Middle East Library. His Special Collections initiatives received national recognition and were studied by research libraries across the West. He oversaw the publication of several imprint series. Dr. Cooley was the general editor for eleven limited titles published under the University's Tanner Trust Publishing imprint series entitled *Utah, The Mormons, and the West*. He personally edited *The Diary of Brigham Young, 1857*. In acknowledging the role of traditional hand-press printing in the field of history and scholarship, Cooley inaugurated The Red Butte Press limited edition imprint series. Six hand-press books were published during his tenure, including Wallace Stegner's *Wilderness Letter*. His contributions to Utah History were recognized in many ways including being named an Honorary Life Member and Fellow of the Utah State Historical Society.

When Ev retired as Assistant Director for Special Collections, J. Willard Marriott Library, University Archivist, and Professor of History, he reinvented himself as an oral historian. He established the Everett L. Cooley Oral History Program in 1983 and spent the next two decades conducting interviews on the history of the University of Utah, Salt Lake City, and the State of Utah. In mentoring many of the major historians and creating supporting preservation organizations and initiatives in Utah and the West, his work and legacy will continue to inspire new generations of students for many years to come. Ev will always be known as "Mr. Utah History."

Dr. Everett L. Cooley is survived by his wife, Elvera Bird Cooley, and two daughters, Janene (Richard) Brown and Karen (Wayne) Milne.

Gregory C. Thompson
University of Utah

BOOK REVIEWS

Pedestals & Podiums: Utah Women, Religious Authority & Equal Rights.

By Martha Sonntag Bradley. (Salt Lake City: Signature Books, 2005.

xxiv + 613 pp. Cloth, \$39.95.)

MARTHA SONNTAG BRADLEY'S *Pedestals & Podiums* is an important and interesting book for many reasons. Most importantly, it sheds light on one of the great questions of late twentieth-century politics that despite much discussion may never be fully answered: why did the proposed Equal Rights Amendment fail to be ratified? The author also clearly illuminates the major role of the LDS (Mormon) church in preventing ratification not only in Utah but throughout the nation.

Bradley argues that LDS leaders, encouraged by Phyllis Schlafly and other non-Mormon leaders of the Right, urged Mormon women to turn out in massive numbers to defend traditional gender roles during the state's International Women's Conference in 1977 and, afterwards, to continue their activism against the perceived threat to God, country, and family that feminism and the ERA represented. Bradley provides detailed evidence to demonstrate the crucial role that the church played, particularly in the years between 1977 and the amendment's June 1982 expiration date—the years in which ERA proponents struggled to secure the last few states needed for ratification.

The stories Bradley recounts of Mormons for ERA leader Sonia Johnson's excommunication and of Mormon Judge Marion J. Callister's refusal to recuse himself from the case on the constitutionality of rescission were very public and fairly well known. Yet Bradley's audience will probably be surprised by her detailed accounts of the LDS role in defeating the amendment in states where there were relatively few Mormons. Though the LDS leaders actively encouraged Mormons to contribute both time and money to these defeats, church leaders encouraged their followers to make these contributions as individuals rather than as Mormons. According to Bradley, many Mormons on both sides of the ERA issue were disturbed that the church paid no heed to the principle of separation of church and state while at the same time attempting to conceal the heavy LDS involvement.

In addition, *Pedestals & Podiums* is important and interesting for the insights it provides into the complex history of the LDS in relation to American politics as well as women's rights. Readers less familiar with the church's history and values might be quick to assume that its opposition to the ERA and intolerance of Mormon women who supported it was in keeping with its traditions. Bradley, however, clearly admires the ideals and history of the LDS and sees the church leadership's actions during the ratification struggle as a departure both from its historic support for women's rights and for freedom of conscience in regard to politics. Reviewing the history of the Mormon church's relationship with the women's rights movements, Bradley is clearly proud of the church's (and thus

Utah's) historic role in championing woman suffrage decades before it was adopted nationally. She is also proud of the activism of the Relief Society, a women's organization within the LDS church, which had done its good work with considerable independence since its origins in the nineteenth century. Clearly she and other ERA supporters in the LDS church—a small minority—felt betrayed as well as horrified when the male leadership began to reign in the Relief Society, adopt an increasingly political role as they entered the fight against the ERA, and demand unquestioning support from their followers.

Not the least of her contributions, Bradley provides an impressive example of a historian who has been directly involved in the events she describes struggling to understand and explain them while striving to be fair and accurate in presenting the ideas and actions of her erstwhile opponents. For example, Bradley defends the arch conservative Utah delegation to the national IWY conference in Houston, Texas, as erroneously and unfairly “stigmatized” by national feminists as allies of the Ku Klux Klan. It is the male leadership of the LDS church, not the women they led, that Bradley blames most for creating an atmosphere in which Mormon feminists have had to fear ostracism or even excommunication. Clearly Bradley regrets that the movement for women's rights led to this bitter struggle within the LDS community and the nation over gender policies that left the church and the nation deeply polarized. Yet, ironically, Bradley's book—while accusing and convicting the church of contributing mightily to the defeat of the ERA—is at the same time providing a defense of the true values and earlier historic role of the LDS church as she sees them.

MARJORIE J. SPRUILL
University of South Carolina

Devils Will Reign: How Nevada Began. By Sally Zanjani. (Reno and Las Vegas:

University of Nevada Press, 2006. xi + 222 pp. Cloth, \$29.95.)

BEFORE 1861, ALL BUT THE SOUTHERN TIP of Nevada was part of Utah Territory, but the “devils” in Sally Zanjani's latest book were not the backsliding Saints who left Salt Lake City against Brigham Young's wishes to search for gold in California in 1850 and established Nevada's first permanent settlement on the Carson River, near today's Carson City. They were the vigilantes and mobs that made life hellish after law abiding Mormon settlers left Carson Valley during the Utah War to defend Zion against an American army in 1857.

In its beginning, Nevada was rollover country for the thousands of wagons that followed the Humboldt River on the line of today's I-80 after the 1848 gold discovery in California. Most of the early traffic went south from the Humboldt Sink, west of present Lovelock, to reach and follow the Carson River. It then took

the Carson Pass route over the Sierra Nevada opened later in 1848 by Mormon Battalion veterans going the opposite direction to the Salt Lake Valley.

In 1850, one of the battalion pathfinders led a party of eighty-five men from Salt Lake City over this route to the gold fields east of Sacramento. As they passed through Carson Valley, Abner Blackburn did a little prospecting on the east side of the Sierra Nevada and became the first to find flakes of gold in Nevada at the site of the Comstock Lode, east of Reno. But seven members of his party saw a better way to riches than panning for gold in cold mountain streams. They located a trading post for passing emigrants, called Mormon Station, now Genoa.

Utah lawmakers in 1852 created counties with borders that ran due west from the Wasatch Front across the Great Basin to the California line. Suddenly the motley mix of prospectors and independent-minded Saints along the Sierra Nevada's east slope found themselves in Millard County, whose county seat at Fillmore was unreachable as a crow flew even by Indian trail. Unhappy at being ruled from a five hundred-mile distance and profoundly distrustful of the theocratic manners of their Mormon neighbors, many began to agitate for annexation to California or to become a territory.

Brigham Young at last moved in 1854 to shore up his kingdom's western rampart. Utah legislators created Carson County, a twenty thousand-square-mile colossus covering roughly a fifth of the state's present area, with its county seat at Mormon Station. Young dispatched Apostle Orson Hyde to organize it and serve as its first probate judge. In 1856 he also sent some two hundred fifty colonists to assert control over the mixed county, but recalled them the following year to defend against the approaching U.S. Army. They left their improvements behind and never looked back.

Their departure left Carson Valley in the hands of the devils, referred to in the title of this work. Apostle Hyde thought the appellation surely fit the ones who took over Mormon property, including his sawmill, without paying the agreed upon price. For this, he later leveled a curse on them. The Lord of Hosts would visit the people of Carson and Washoe Valleys with thunder, earthquakes, floods, pestilence, and famine. It took a while, but in 1862, a dam broke and washed out his old mill and the town below.

In her latest book, Zanjani, a former president of the Mining History Association and University of Nevada professor, displays her extensive knowledge of the region and exceptional gifts as a writer that make her work a pleasure to read. To this she imparts an intuitive understanding of the colorful characters, Mormons and miners alike, who lived in western Nevada before it became a territory, the period she covers.

Most amazing are the prospectors so fixated on finding gold that they labored for eight years to eke out a living at Gold Canyon, site of Virginia City in Storey County, and overlooked the evidence under their feet of the greatest silver ore deposit ever found in the United States, the Comstock Lode. Tragic enough to make a reader weep is the story of two sons of a New England minister, who

“possessed every ingredient for success in mining except the most important one—luck” (44).

Allen and Hosea Grosh found the black silver ore, but were so poverty stricken they could not afford to have it assayed before Hosea cut his foot with an ax and died of blood poisoning. Allen then tried to cross the Sierra Nevada in late November to test the value of their claims in San Francisco. Before he was rescued, his feet had frozen to the knees and he, too, died. Later evidence indicates the pair had posted a claim notice at the axis of the Comstock Lode on future sites of the Ophir and the Gould and Curry Mines.

More clever than lucky or industrious was the unlikable figure for whom the great silver and gold deposit at Virginia City was named. Henry P. Comstock, better known as “Old Pancake,” never found anything himself, “but he claimed everything in sight” (115). He happened to ride by the day two Irishmen dug down and struck some black material flecked with gold. Old Pancake promptly swore he had once claimed the area as a ranch hand. He demanded a share, got it, and put his name in Nevada history in silver letters.

The great rush began and Nevada was on its way to becoming a territory in 1861, the event with which this book ends, and a state in 1864, thirty-two years ahead of Utah. This new book from University of Nevada Press is informed and interesting, splendidly written and enjoyable to read.

DAVID L. BIGLER
Roseville, California

The Civil War in Arizona: The Story of the California Volunteers, 1861-1866.

By Andrew E. Masich. (Norman: University of Oklahoma Press, 2006. xiv + 368 pp.

Cloth, \$32.95.)

THIS IS THE STORY of California volunteers in Arizona Territory during the Civil War. Arizona was actually part of New Mexico Territory at that time and would not become a territory until 1863. Andrew Masich prefers to call it Arizona from the time the volunteers entered the territory, and rarely refers to it as New Mexico Territory. When the California volunteers under Colonel James H. Carleton reached Tucson, the Colonel was notified of his promotion to Brigadier General of Volunteers. He immediately declared martial law and proclaimed Arizona a U.S. Territory. However, it wasn't until 1863 that Arizona was declared a separate territory by President Abraham Lincoln.

According to Masich, the Civil War had great influence on Arizona Territory and the California men played an important part in its economic development, social change and eventual statehood. He argues that “The legacy of this influence can be clearly seen in the nature of Arizona's growth, its laws and institutions, and

the character of its people" (5-6). The evidence in support of his thesis is fully adequate, but he does not include a coherent picture of the full military and civil activities of the times to provide a background for the military occupation of Arizona.

President Abraham Lincoln called for volunteers in May 1861, a month after the Confederate States seceded from the Union and many Californian men immediately volunteered. California mustered two regiments of cavalry and five regiments of infantry. By the end of the war the state had raised a total of 15,725 volunteers. In 1864, as enlistments ran out, California organized a battalion of "Veteran Volunteers" for additional service. Colonel James H. Carleton, formerly a Major of the First U.S. Dragoons, commanded the California volunteers headed for Arizona and he named them the California Column.

The California Column was originally meant to guard the Overland Mail from Carson City, Nevada, to Salt Lake City, Utah. When news of the Confederate invasion of New Mexico reached Washington, the California Column was ordered to New Mexico. Masich does not mention the Utah Column commanded by Colonel Patrick Edward Connor, which was ordered in place of the original column.

The author begins with a prologue, relating the only battle between the Confederates and Californians, which took place at Picacho Pass north of Tucson. A detachment of the California Column was sent to rescue Captain William McCleave, who had been captured by a Confederate detachment commanded by Captain Sherod Hunter. A small detachment of the California Column reached Picacho Pass and engaged Hunter's men. The Californians suffered three dead and two wounded, while the Confederates had three men captured. The Californians retreated and the Confederates had won the only battle to take place in Arizona.

Confederate soldiers under Lieutenant Colonel John R. Baylor invaded New Mexico in July 1861 with the intent of capturing the southwest and southern California and, seizing its gold for the Confederacy. Baylor issued a proclamation establishing the territory of Arizona and declared himself governor. Meanwhile the Confederates had commissioned Major Henry H. Sibley brigadier general and sent him to Texas to organize an expedition to seize New Mexico Territory. Early in 1862 General Sibley followed the Rio Grande River into New Mexico, and after defeating federal forces at Valverde, General Sibley marched to Albuquerque. Federal forces abandoned the city and Sibley continued north and captured Santa Fe, the capital of New Mexico Territory. He was then positioned to continue north to Denver and cut the Overland Route to California.

Meanwhile, Colorado and New Mexico Volunteers under Colonel J.P. Slough, were preparing to resist Sibley's army. The volunteers left Denver on February 22, 1862, headed for Fort Union, New Mexico. Major J.M. Chivington, a parson, was ordered to march to the fort. His detachment of men reached Fort Union after a sixteen day march through snow and rain. After a ten-day delay, Colonel Slough ordered his command to march towards Santa Fe and the Colorado Volunteers

encountered the Texans at Glorieta Pass, southeast of Santa Fe. It was a bloody battle and the Texas troops were forced to retreat back to Texas when Major Chivington flanked them and burned their supply wagons.

General James H. Carleton organized the California Column to resist the invading Texas army and marched his men across the southwestern deserts as temperatures soared well above 100 degrees, while dust storms and occasional pelting rainstorms added to their misery. General Sibley retreated rapidly after his defeat and Carleton was too late to catch the retreating Texans. However, when General Carleton reached the Rio Grande an exchange was made for Captain McCleave.

The California Volunteers acted as a protective force against the hostile Indians after the Confederates were driven out of Arizona and New Mexico. The volunteers performed many jobs while on active duty, including making roads, digging wells in the desert, constructing bridges, establishing depots, escorting trains, and carrying the mail.

Masich's story of the California Volunteers is primarily concerned with the economic, sociological, cultural, and political effects of the California Volunteers on the territory of Arizona and its people. His description of the men, their equipment, training, and logistical problems is good. His coverage of Indian warfare is primarily limited to the Apache Indians, which the volunteers dispatched with great regularity and enthusiasm. For some reason he only briefly mentions famed mountain man Colonel Christopher "Kit" Carson, whose campaign against the Navajo Indians took place in Arizona.

The description of equipment, arms, wagons, and horses is very thorough and anyone wanting to know what the volunteers looked like, what they ate, their clothing, arms, and equipment, need look no further than this book. The illustrations are excellent and the footnotes are extensive and informative.

A primary value of this book is the inclusion of a large number of letters written to the *San Francisco Daily Alta* by the California Volunteers between 1862 and 1865. According to Masich, "the soldier-correspondents submitted reliable and accurate accounts for publication in the *Alta*, especially considering the word-of-mouth information gathering done by the enlisted reporters. It is true that the correspondents occasionally exaggerated and at times passed judgment on their superiors too quickly. It must have been difficult for the young men to maintain a measure of objectivity while marching through dust and intense heat, worrying about water, weather, and elusive enemies. Even so the correspondents and their comrades in arms seemed to sense the fact that they were shaping the nation's destiny and making history"(147).

✓ CHARLES HIBBARD
Fort Douglas Military Museum

The Antiquities Act: A Century of American Archeology, Historic Preservation, and Nature Conservation. Edited by David Harmon, Francis P. McManamon, and Dwight T. Pitcaithley. (Tucson: University of Arizona Press, 2006. x + 326 pp. Paper, \$19.95.)

WHILE THE LITERATURE on national parks and national forests is voluminous, the national monuments have received only minimal attention from scholars. Now, in recognition of the centennial of the Antiquities Act, which made possible the creation of national monuments or “objects of historic and scientific interest” by presidential order, they are more front and center.

The editors claim the Antiquities Act is arguably “one of the most important” statutes in United States conservation history and that “no other law has had such a wide-ranging influence on the preservation of our nation’s cultural and natural heritage” (1,2). While the subtitle reflects the emphasis on archaeology, historic preservation, and nature conservation, only a few essays speak to these topics. Other topics covered in this collection range from the act’s origins and architects to its controversies and future including the growing responsibility of the Bureau of Land Management to care for national monuments. Taken together, the essays contribute to what is undoubtedly the most accessible and wide-ranging treatment of the Antiquities Act from its origins to the present day.

The essays represented in this collection—written by an eclectic field of law, history, and archaeology professors and land managers—are as diverse in quality and presentation as the authors who wrote them. Some are abbreviated or revised versions of earlier work, others are original to this volume. Some of the essays rely heavily on primary sources, while others draw mainly from secondary source material. Themes tend to overlap, but this is to be expected when some essays present an overview or a synthetic treatment of one issue over a long period of time while others delve into more specific issues and controversies rooted in a distinct place and time. Most of the essays are descriptive in nature and lack the analytical rigor and abstract cultural and intellectual considerations of other scholarship on the public lands such as Alfred Runte’s *National Parks: The American Experience* or Stephen Pyne’s *How the Canyon Became Grand*.

This book also tends to reinforce the longstanding notion that at the fore of monument making were conservationists, scientists, national park officials, and politicians—the elite. Some essays attempt to redirect the discussion away from the elite; for instance, Jerry L. Rogers refers to a citizens’ movement that promoted preservation on the local levels, but he does not develop this point in his essay. While Joe E. Watkins discusses the negative impacts of the Antiquities Act on Native Americans, I would have liked to see more of the native “voice” reflected in his essay. Moreover, he understates the responsibility of Anglo Americans by arguing that the creation of national monuments only had the unintended consequence of harming native peoples.

This book may extol some of the virtues of the Antiquities Act, but it is not a celebration. It addresses hard issues, such as the misuse of the Antiquities Act, the debate over what constitutes “objects of historic and scientific interest,” and how much land should be set apart to protect those interests. Regardless of the contours of the debates, the editors predict that the Antiquities Act will continue to guide national conservation policy in the years to come—it only remains unclear how much it will be used of if Congress will amend it to reflect more modern values.

JEDEDIAH S. ROGERS
Tempe, Arizona

A History of Utah International: From Construction to Mining. By Sterling D.

Sessions and Gene A. Sessions. (Salt Lake City: The University of Utah Press, 2005.

xx + 243 pp. Cloth, \$29.95.)

FEW COMPANIES SHAPED THE LANDSCAPE of the twentieth-century American West as extensively as Utah Construction Company. In addition to laying hundreds of thousands of miles of railroads and freeways, Utah Construction built numerous bridges, canals, tunnels, aqueducts, spill ways, dams, and power plants. Some of these projects, such as Hoover Dam and Bonneville Dam represent monumental feats of engineering and collaboration. By midcentury, Utah Construction broadened its impact internationally through its massive mining operations in numerous foreign countries. In this work, Sterling D. Sessions, former professor of economics at Weber State University, and Gene A. Sessions, professor of history at Weber State University, detail, for the first time, the history of Utah Construction and its subsequent incarnations: Utah Construction and Mining, and Utah International.

As described in the preface, the authors aim to “create a one-volume record of the company’s numerous projects that would be interesting for the casual reader, educational for the student of American business, and helpful in pointing more serious scholars toward deeper documentary resources”(x). For the most part, they succeed in achieving these broad objectives. From its meager origins as a small Utah-based partnership of Edmund O. and William Henry Wattis, to its rise as the premiere mining firm in the United States, the authors frame the history of the company as though they were writing a life and times biography.

While fleshing out the details of the company’s past, the bulk of the narrative is given to a chronological description of the ventures undertaken. Woven into the narrative are management reorganizations, shifts in corporate objectives, and major activities in foreign countries. Reflecting the authors’ heavy reliance upon newly available corporate documents and the personal papers of company management, the company’s construction and mining projects are detailed from the perspective

of the executive. As such, the descriptions of company activities primarily contain data which would have interested Utah International's management, including construction specifications, dates of completion, technology used or required, natural resource refinement processes, bidding and budgeting figures, the creation of subsidiaries and partnerships, and most important net profit. Despite the authors thorough research and clearly defined approach, there are several drawbacks. Because Utah was involved in so many construction and mining enterprises, at times the narrative reads like an endless parade of projects and facts. Moreover, in several instances, facts are awkwardly supplied to connect the history of the company to larger unrelated American developments. For example, the authors note when speaking of the company's international mining expansion that "Bold expansion schemes continued throughout 1972-73, and, as an aside, in the United States FedEx opened for business" (125). Though the authors omit source notation to improve readability, the recitation of facts *ad nauseam* might alienate readers.

Throughout the work, Utah International is also depicted in unabashedly glowing terms. Continually, information is injected into the narrative suggesting Utah's business dealing were ethical, benefiting the local economies and communities which hosted its mining operations. Little, however, is provided to place these claims in context. Although it appears as though Utah International had an interest in acting morally, this is generally a one-sided perspective. A representative example is Utah's coal-mining operation on Navajo land. The authors claim company executives treated the Native Americans ethically by allowing archaeologists to investigate ancient ruins before mining operations began, hiring Navajo workers where possible, restoring the desert landscapes after they had been mined, and negotiating advantageous lease and royalty payments to the Navajo Tribe. Although Utah's treatment of the Navajo seems fair, the Navajo may not view these actions, especially the leasing and royalty rates, as fair, ethical, or beneficial to the tribe.

Notwithstanding these weaknesses, this is a fine corporate history. Readers specifically interested in the history of Utah International will enjoy this work which synthesizes the lengthy and complex history of the company. *A History of Utah International* is also a foundational work likely to promote additional study of the company. As such, students of American business and historians studying international mining and the development of the American West will also find value in this work.

JACOB W. OLMSTEAD
Texas Christian University
Fort Worth, Texas

The Quiet Hero: The Untold Medal of Honor Story of George E. Wahlen at the Battle for Iwo Jima. By Gary W. Toyn. (Clearfield: American Legacy Media, 2006.

240 pp. Cloth, \$21.95.)

THIS REVIEWER HAS HAD THE OPPORTUNITY to participate in a number of events at which George E. Wahlen was either the honored guest, guest speaker, or lending his support to the event by his presence, including the Fort Douglas Military Museum.

The book includes a forward by Senator Robert J. Dole, another American war hero, and an introduction by Senator Orin G. Hatch. Wahlen's story is told chronologically from the time of his birth on August 8, 1924, at Fairmont, Utah, through his childhood during the Depression to his enlistment in the U.S. Navy in 1943. Despite his previous experience working as an aircraft mechanic crew chief at Hill Army Air Force Base, the U.S. Army Air Corps had no vacancies when he attempted to enlist. Wahlen then volunteered for induction and was accepted in the U.S. Navy. Upon graduation from the Naval Training Center in San Diego, he was assigned as a navy corpsman (the equivalent to an army medic). The book then follows his assignment from hospital orderly to combat corpsman with the 5th Marine Division, first in Camp Pendleton, California, then Camp Tarawa, Hawaii, and finally in the assault landing on Iwo Jima as a member of "F" Company, 2nd Battalion, 26th Marines. The book describes in detail Wahlen's heroism during twelve days of continual combat on Iwo Jima in February 1945. The Utah corpsman struggled to save the lives of the men in his company while being wounded twice and personally engaging in combat with Japanese soldiers as he rescued his wounded comrades.

While recovering from his wounds at the U.S. Naval Hospital in Camp Pendleton, Wahlen was ordered to report to the Naval Barracks in Washington, D.C., without explanation. On October 5, 1945, Wahlen, along with thirteen other men, received the Congressional Medal of Honor at a White House ceremony. President Harry S. Truman personally draped the award over his head.

After release from the navy, Wahlen joined the army, serving as a recruiter. He was stationed in Japan during the Korean War, and at Long Bin, Vietnam, during the Vietnam War. He retired from the army in 1969 with the rank of Major. Upon returning to Utah, he worked for the Veteran's Administration for another fourteen years. In 2003, President George W. Bush signed legislation authorizing the Salt Lake City Veterans Affairs Medical Center to be named in Wahlen's honor.

While the author knows his subject's personality very well—a quiet man of great courage who does not like the limelight, yet learned to use his fame to assist other veterans—there are a few minor criticisms of this book. It would have been helpful to include an order of battle to put Wahlen's actions and that of his company in perspective with the overall Battle for Iwo Jima. The situation maps would have been more useful if unit boundaries were shown. The Japanese heavy

mortars identified as 360 mm in one place and 320 mm in another, are in fact 320 mm spigot mortars that fired a rocket projectile from a spigot attached to a heavy wooden base. Also, corps are designated by Roman numerals, not Arabic numbers. The V Amphibious Corps (VAC) that assaulted and took Iwo Jima consisted of the 3rd, 4th, and 5th Marine Divisions.

Overall, the book is an excellent account of George Wahlen's courage on Iwo Jima during twelve days of February 1945. His story should be read by anyone wishing to not only be inspired by the actions of a farm boy from Utah, but also for a glimpse at what combat on Iwo Jima was like for an individual rifleman.

ROBERT S. VOYLES
Fort Douglas Military Museum

Byron Cummings: Dean of Southwest Archaeology. By Todd W. Bostwick. (Tucson: The University of Arizona Press, 2006. xiv + 350 pp. Cloth, \$55.00.)

ANYONE WHO HAS READ or even given a cursory glance at a book on Southwestern archaeology has likely run across the name of Byron Cummings, known to colleagues and students as the "Dean" of Southwestern archaeology. The reader may not know much more about Cummings than the fact that he was one of the earliest archaeological investigators in the region, but there is far more to know, as Bostwick chronicles in his biography of Byron J. Cummings.

Bostwick's biography comprises twenty-four chapters arranged in roughly chronological order with an introductory chapter that enumerates many of Cummings' better-known accomplishments and the various roles he played in the early exploration of archaeological sites in Utah and Arizona, in university settings, and in the larger contexts of local, state, and national politics. Other chapters focus on particular time periods in Cummings' life, his work in Mexico and other regions in the Southwest, and some particularly interesting sections on Cummings' role in several major controversies. Chapter Two documents what little is known about Cummings' early years in New York and New Jersey. The following chapters detail the remarkable number of archaeological sites visited and partially excavated by Cummings (which were never reported), his time at the University of Utah, and contribution toward building the Arizona State Museum. Lest we forget that Cummings' views truly reflected those of many scholars of his time, Bostwick reminds us that: "Cummings wished to know about the lifestyles and accomplishments of these [ancient] people, but the primary goal of his adventures was to obtain artifacts (which he called "relics") for his university museum before they were taken by pothunters and out-of-state archaeologists" (32).

Bostwick documents other statements by Cummings—some retold by Cummings' students—showing that Cummings was also motivated by a romanti-

cism later captured by author Zane Gray, painter Maynard Dixon, and exploited for profit by the railroads, anxious to lure tourists to the West.

The book also details Cummings' various other accomplishments—his extraordinary energy, his passion for the prehistory of the region, his mediation skills in the often contentious arena of university politics, and his influential role as teacher and mentor. Bostwick's use of numerous personal letters and other original sources to examine Cummings' role in establishing the Arizona State Museum at the University of Arizona and his relentless politicking to keep Arizona archaeology in the hands of Arizona archaeologists and away from what he saw as elitist eastern institutions provides a particularly fascinating look at the early phase of archaeology in the American Southwest.

Cummings' antagonism toward the "eastern establishment," as he sometimes called it, is extremely well documented by Bostwick from original sources. One example is a statement by Cummings to a local Prescott, Arizona, amateur archaeologist, James W. Simmons, who had contacted Alfred Kidder regarding Kidder's interest in working at sites in the Prescott area. Cummings told Simmons that "he objected to Kidder's working the Prescott region because there were other archaeologists just as good as Kidder and that Kidder's gang wanted to 'hog it all'" (230). Kidder's decision not to work in the Prescott area was largely if not entirely based on Cummings' strong objections. According to Simmons, Kidder "thought it best to let the little runt have his own way" (230-31). The feelings must have run both ways.

Bostwick chronicles one of Cummings' greatest contributions to Southwestern prehistory, his apparent ability to attract and motivate a surprisingly large number of excellent students. Between 1928 and 1937, thirty-five students wrote master's theses under Cummings, including well known figures such as Emil W. Haury, John C. McGregor, Edward H. Spicer, and Gordon R. Willey, to name a few. It is a good thing these individuals actually reported on sites excavated by Cummings, since Cummings seemed incapable of concentrating long enough on a single task, such as writing or preparing scholarly site reports.

Bostwick also sheds light on Cummings' puzzling, often neutral role in a fascinating mystery in Arizona's history—the Silverbell Road Artifact Controversy. The Silverbell Road artifacts were a collection of thirty-one lead artifacts and an inscribed stone, purportedly buried deeply at an old lime kiln near Tucson. Inscriptions on these artifacts included bizarre Latin and Hebrew words, eighth- and ninth-century dates, along with Christian, Muslim, Hebraic, and Freemasonry symbols. Bostwick's extensive research into the mystery provides a fascinating read.

For a biographical work there are surprisingly few explicit comments about some aspects of Cummings' life. This reviewer would have appreciated having Bostwick's thoughts on several puzzling aspects of Cummings' behavior such as his failure to allow sufficient time for his party to travel to John Wetherill's trading post for a scheduled meeting with President Theodore Roosevelt even though Roosevelt had waited for an additional two days for the meeting. Another example is Cummings' paradoxical behavior when he removed Arizona artifacts to

Utah (while working at the University of Utah), even though Cummings had made it clear on numerous occasions that Arizona artifacts should remain in Arizona, or as Bostwick characterizes it, Cummings' "states' rights" position. Of course, his stance regarding removal of Arizona artifacts from Arizona was voiced mainly when he worked at the University of Arizona, and during his opposition to easterners taking Arizona artifacts back east. Nevertheless, Bostwick adds his own subtle opinions—perhaps a better approach than explicit statements.

Despite this relatively minor shortcoming and the sometimes awkward phrasing in sentences, Bostwick's biography is a valuable contribution to Southwestern pre-history and to the history of one of its earliest investigators.

CLAUDIA F. BERRY

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BOOK NOTICES

Escalante: The Best Kind of Nothing. By Brooke Williams and Chris Noble. (Tuscon: University of Arizona Press, 2006. x + 96 pp. Paper, \$14.95.)

Escalante, a region in south central Utah, has the distinguishing characteristic of being the last place in the continental United States to be mapped. Brooke Williams and Chris Noble seek to pay tribute to this amazing land in this remarkably illustrated and entertainingly written gift book. Touching on topics from the indigenous life of the area to the efforts to secure and protect Escalante as the Grand Staircase National Monument, Williams' prose and Noble's photographs present a stunning portrait of this remarkable area.

After Lewis & Clark: The Forces of Change, 1806-1871. By Gary Allen Hood. (Norman: University of Oklahoma Press, 2006. 96 pp. Paper, \$24.95.)

This book narrates the period of the Lewis and Clark Expedition via the artwork that that period and event produced. Using a collection of paintings currently housed in the Gilcrease Museum of Tulsa, Oklahoma, this extensively and necessarily illustrated book also provides context, background, and explanations of each painting included. As artists often accompanied the explorers of the American west in the nineteenth century, their visual renderings are some of the most vivid and telling accounts of the frontier period. The book includes sixty-seven beautifully done illustrations and accompanying text.

By His Own Hand?: The Mysterious Death of Meriwether Lewis. Edited by John D.W. Guice. (Norman: University of Oklahoma Press, 2006. xxi + 208 pp. Cloth, \$24.95).

In *By His Own Hand*, four writers analyze the death by gunshot of Meriwether Lewis, of the Lewis and Clark Expedition. The format and chronology of the book follow that of a trial. The introduction by Clay Jenkinson provides a context for the event. In the next two chapters, the case for suicide is argued by James J. Holmberg, and the case for homicide by John D. W. Guice. In the final chapter, Jay H. Buckley, professor of history at Brigham Young University, conducts a postmortem trial by recounting the arguments for suicide and murder and by comparing the death of Meriwether Lewis with the deaths of three other leading figures of the expedition—William Clark, York, his slave, and Sacagawea. Buckley concludes that until the body of Lewis is exhumed and sufficient DNA evidence is recovered to provide a definitive answer, historians will be unable to give a final answer as to whether Lewis' death was a suicide or murder.

The Southwestern Journals of Zebulon Pike, 1806–1807. Edited by Stephen Harding Hart and Archer Butler Hulbert. (Albuquerque: University of New Mexico Press, 2006. vi + 280 pp. Cloth, \$27.95.)

In 1806 U.S. Army Lieutenant Zebulon Pike was assigned to explore the headwaters of the Arkansas and Red rivers. Along his way, he recorded in detail his observations about the land and the peoples he encountered. In 1810 Pike wrote his only book, *An Account of Expeditions to the Sources of the Mississippi and through the Western Parts of Louisiana*. This volume, published to commemorate the bicentennial of Pike's journey through the American Southwest, includes the long-out-of-print journals, with notes, commentary, and essays by the editors on the nature and significance of the expedition.

Crazy Horse: A Lakota Life. By Kingsley M. Bray. (Norman: University of Oklahoma Press, 2006. xv + 484 pp. Paper, \$34.95.)

Historian Kingsley M. Bray revisits the life and context of Crazy Horse, the Lakota chief so mythologized in Western American history. Through extensive and meticulous primary source research, the author has created a more comprehensive and nuanced picture of Crazy Horse. Additionally, the narrative offers insight into the complex relationship between the United States and the Lakota Indian tribe, and the tenuous position of Native American nations in the second half of the nineteenth century. Clearly written and well-noted, Bray's

biography offers a fresh vision of this Native American leader and the world in which he existed.

The Oatman Massacre: A Tale of Desert Captivity and Survival. By Brian McGinty.

(Norman: University of Oklahoma Press, 2006. xiv + 258 pp. Paper, \$14.95.)

On February 18, 1851, a band of southwestern Indians attacked the family of Roys Oatman near the confluence of the Gila and Colorado rivers in present-day Arizona. Oatman, a dissident Mormon, and his family of nine were enroute from Illinois to the confluence of the Gila and Colorado Rivers. Only three members survived. McGinty uses firsthand accounts and recent work on nineteenth-century southwestern Indian peoples to demythologize the story of the Oatman Massacre and correct the anti-Indian bias so prominent in previous tellings.

The Office Journal of President Brigham Young, 1858-1863, Book D. Edited by

Fred C. Collier. (Hanna, UT: Collier's Publishing Company, 2006. xvii + 470 pp. Cloth, \$35.00.)

This edited volume is the last of ten known office journals of Brigham Young. The journal is written in the third person by various clerks. Entries describe the day-to-day activities of Brigham Young and his many visitors. Most daily entries are very brief. Divided into six chapters corresponding to years of the office journal, the volume also contains an extensive index and includes an appendix with the minutes of four meetings held during the forepart of 1860 concerning doctrinal disputes between Brigham Young and Orson Pratt.

Clarence Edward Dutton: An Appraisal. By Wallace Stegner. (Salt Lake City:

University of Utah Press, 2006. xvi + 40 pp. Cloth, \$25.00.)

This reprint of Wallace Stegner's 1936 publication is a facsimile of a once rare and out-of-print book. Stegner's account of Clarence Edward Dutton is well-written, at times gripping, and consistently accessible. The assessment of Dutton's life also touches on his geological expertise, his involvement with John Wesley Powell, and his unsurpassed ability to describe the natural scenery of the Colorado Plateau. As Stegner's first published work of nonfiction, this assessment of Dutton led to Stegner's epic history published in 1954, *Beyond the Hundredth Meridian: John Wesley Powell and the Second Opening of the West*.

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